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ABSTRACT

Useful models and ideas for multicultural and cross-cultural educators at all levels who want to use anthropological concepts and processes in the classroom are provided in eight papers. Papers describe six different projects which (1) involved high school students in the collection and analysis of data about local youth cultures; (2) engaged college students in an introductory anthropology course which conducted a participant-observation study of various small groups; (3) used oral history to teach about the concepts of culture and ethnicity; (4) emphasized direct experience and a hands-on approach in archaeology programs developed for pre-college students; (5) promoted an appreciation of cultural relativity and stereotyping by using obsolete films; and (6) examined the use of non-Western mathematics to improve students' mathematical concepts and skills and their cultural awareness. The last two papers deal with teacher training programs, including the use of the simulation BaFa BaFa and its juvenile version RaFa RaFa to teach about cultural pluralism, and pre-college teacher training programs in multicultural education. (RM)

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Anthropology and Multicultural Education:

Classroom Applications

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FOREWORD

The Anthropology Curriculum Project, The University of Georgia, is pleased to present this collection of papers, edited by Yolanda T. Moses and Patricia Higgins, which resulted from a panel of the Council on Anthropology and Education held in connection with the 1981 meeting of the American Anthropological Association in Los Angeles.

Anthropology and Multicultural Education: Classroom Applications begins in Chapter I with an exploration of the rationale of multicultural education. The following eight chapters give practical examples of multicultural education in the classroom. The publication concludes with a list of useful references for teachers and resource centers in anthropology.

We live in a time when children and young people need to not only acquire a sense of identity with their own culture, but also need to acquire a feeling of respect and empathy for people of other cultures. And other cultures do not exist merely outside of the borders of the United States. People of diverse cultures within the United States have an increased consciousness of their cultural heritages and demand a recognition of their past and distinctive contributions to being American.

This practical compilation is designed to be helpful to the teacher, whether taking a global perspective and looking beyond the boundaries of the United States, or looking at our own ethnic groups. Anthropology and Multicultural Education provides teachers with resources to facilitate classroom understanding, drawing on the rich concepts and illustrations from the discipline of anthropology.

M.J. Rice
Anthropology Curriculum Project

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Y. Moses
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INTRODUCTION

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Multicultural education is a concept that has been used in the field of education for over ten years. Most broadly it refers to education in which cultural differences are recognized and respected -- in the curriculum, in methods of instruction, in interpersonal relations, and in the total school environment. Multicultural education is based on acceptance of cultural diversity as a significant and positive facet of American society and one which need not be contradictory with such traditional American values as national pride and unity, equality of opportunity, and individual freedom.

Definitions of multicultural education range from the very general to the very specific. As defined by the American Association of Colleges for Teacher Education, multicultural education:

> ... affirms that schools should be oriented toward the cultural enrichment of all children and youth through programs rooted to the preservation and extension of cultural diversity as a fact of life in American society ...(Hunter 1974:21).

Such education should include:

> (1) the teaching of values which support cultural diversity and individual uniqueness; (2) the encouragement of the qualitative expansion of

> existing ethnic cultures and their incorporation into the mainstream of American socioeconomic and political life; (3) the support of explorations in alternative and emerging life styles; and (4) the encouragement of multilingualism, and multidialectism (Hunter 1974:22).

As defined by the National Council for Accreditation of Teacher Education, multicultural education:

> provides a process by which an individual develops competencies for perceiving, believing, evaluating and behaving in different cultural settings (Baptiste, Baptiste and Gollnick 1980:2).

And as defined by James A. Banks, a leading educator in this field, multicultural education:

> ... refers to a reform process whose aim is to create an educational environment in which a wide range of cultural groups, such as women, handicapped persons, ethnic groups, and various regional groups, will experience educational equity (1981a:13).

Critics of multicultural education, as well as some cautious proponents, have argued that several of the assumptions and aims associated with the movement are mutually contradictory and/or in conflict with other widely accepted educational goals. Some fear the cultural relativity encouraged through multicultural education will come in conflict with the educational goals of critical thought and pursuit of truth (Freedman 1977) or will lead to moral anarchy (Thomas 1981). Others fear that pluralism in the schools will undermine the sense of common traditions, values and national unity and will weaken the teaching of basic skills and knowledge (Glazer 1981; Thomas 1981). The most commonly voiced criticism, however, is that the preservation and expansion of diverse subcultures is or may be incompatible with the achievement of equal opportunity through education (Carlson 1976; Gibson 1976a; Hourihan and Chapin 1976; LaBelle 1979; Pettigrew 1974). In particular, it is feared that using school time and resources to teach minority children about their subcultures in subcultural mediums of communication will make it more difficult for these children to acquire the skills and knowledge necessary to compete successfully in the dominant culture.

Nevertheless, most proponents of multicultural education have continued to embrace two broad categories of goals. Multicultural education ought to insure that all students acquire academic knowledge such that they can understand and appreciate more than one culture; and it ought to insure that students of diverse cultural background acquire the knowledge and skills necessary to compete successfully for the highest positions and rewards of American society (Banks 1981b:105-7; Gay 1980). Multicultural education ought to be simultaneously about multiple cultures and education of students of different cultural backgrounds.

These two types of goals are most commonly reconciled through the argument that minority students, who have been at a disadvantage in American schools in the past, will reach standard levels of achievement as a result of the increased motivation, pride, and self-confidence experienced through multicultural education (Banks 1981b; Lewis 1976; Philips 1976). Parallel to this is the recognition that pedagogical techniques and instructional strategies must take account of culturally-based differences in learning styles as well as language patterns (Gay 1980; Cox and Ramirez 1981; Grant 1977b; Saville-Troike 1981) and that evaluation procedures and measures of achievement must be made culturally fair (Arciniega 1981; Lewis 1976; Mercer 1981).

Educators have also stressed that multicultural education ought to insure not only that all students acquire academic knowledge of the other cultures, but also that they learn to interact successfully in more than one cultural milieu: it must not simply be education about multiple cultures, but also education in multiple cultures (NCATE statement quoted above; Banks 1981b). From this perspective the two goals, education about diverse cultures and the achievement of equal opportunity through education, are mediated by the expectation that all students develop cross-cultural competencies. Full implementation requires that evaluation procedures not only be culturally fair but also that they tap the multicultural knowledge and skills to be developed by students of both minority and mainstream background. It should be added that the cultural pluralism espoused by most proponents of multicultural education is defined as a middle position between the more extreme separatist and assimilationist models of society; it is subcultural pluralism in conjunction with a core or universal American culture that is to be promoted through multicultural education (Banks 1977; 1981b; Bennett 1981).

The concept of multicultural education clearly developed out of minority pressures for genuine equality of opportunity through education and out of the widespread rejection of the assimilationist model of American society. In response to political pressure, federal legislation (in particular, the Bilingual Education Act of 1968 and the Ethnic Heritage Studies Act of 1972) mandated and/or made funds available for the development of a variety of multicultural education programs -- from pre-school through college and teacher education. (See Giles and Gollnick 1977 for a discussion of pertinent legislation, court cases, and government policy.) A number of these programs have been discussed and described in a burgeoning literature on the subject (Baker 1977; Klassen and Gollnick 1977; Pasternack 1977). By 1980 it was reported that "at least 28 states have provisions supporting some aspects of multicultural education, including bilingual and ethnic studies, with several other states likely to adopt such regulations"; in addition, 35 states provided "inservice courses in multicultural or ethnic studies" (Blumenberg 1980:34).

Educators officially embraced the concept of multicultural education in statements adopted by the American Association of Colleges for Teacher Education in 1972 (AACTE 1973; reprinted in Hunter 1974:21-23) and by the National Council for Accreditation of Teacher Education in 1976 (reprinted in Baptiste, Baptiste, and Gollnick 1980:2-3). These and other professional educational associations sponsored numerous conferences and publications in support of multicultural education. With the development of Competency Based Teacher Education competencies deemed necessary for teachers to implement the goals of multicultural education were delineated and incorporated into teacher training programs (Hunter 1974; Baptiste and Baptiste 1980; Grant 1977b). In 1977 the National Council for the Socal Studies, defining ethnic pluralism as one type of cultural pluralism, issued Curriculum Guidelines for Multiethnic Education (NCSS 1977).

The rapid proliferation of official pronouncements, programs, and educational writing on the subject of multicultural education has invited charges of faddishness (Wolcott 1981; Gay 1982), charges which gain additional credence from the spotty and often superficial implementation of multicultural education. Multicultural education in practice is most often multiethnic education, with little attention given to non-ethnic sources of cultural diversity (Olsen 1977:18). This situation is justified by "policy considerations (which) suggest that ... the *focus* of multicultural education will be on those groups which are victims of discrimination because of their unique cultural characteristics" (Banks 1977:3); ethnic groups, though admittedly not the only victims of discrimination, are considered to have "high priority" (Banks 1977:5). Furthermore, though multicultural education (or multiethnic education) is supposed to be for all students, programs continue to be better developed and more active in schools with minority ethnic populations (Blumenberg 1980). The legal mandates have been largely ignored in rural, suburban, and other overtly monocultural school systems (Howard 1981). Too often programs that do exist consist of little more than the recognition of ethnic dances, feasts, holidays or heros and are not effectively integrated into instructional programs (Cheng et al. 1979). Very few programs have been seriously evaluated, and there is little evidence to suggest that multicultural education programs have substantially improved the achievement record of minority students (Arciniega 1981:55; Pettigrew 1974:82). Some fear that the current wave of neoconservationism and the back-to-basics movement in the United States may signal a decline in concern for the problems of minorities and in enthusiasm for such "frills" as multicultural education (Banks 1981a:12; Mayers and Walter 1981).

Nevertheless, plans are being made for the 1980s. Proponents see the decade to come as a time for consolidation -- a time to apply the results of ten years of philosophical exploration, public exhortation, and program experimentation to the institutionalization of a coherent, comprehensive, and integrated program of multicultural education (Gay 1980; Blumenberg 1981). To insure that education as a whole is multicultural, attention must be paid to staffing, curricula and instructional materials, and evaluation materials (Grant 1977b:66). To insure that multicultural education is sound, research on cultural pluralism, culturally based differences in learning styles, and intellectual and moral development stages should be used in program design. (For example, see Gay 1980 and 1982.) The focus more than ever should be on the local school, on the teachers and administrators who ultimately carry out any educational reform (Arciniega 1981), and on the overtly monocultural school (Blumenberg 1981). It is clearly time, in this view, for "the translation of pious policies into meaningful classroom activities" (Blumenberg 1980:34).

Given the centrality of anthropological concepts in the discussion of multicultural education -- concepts such as cultural pluralism, cultural relativity, ethnocentrism, ethnicity, and stereotyping, as well as the basic concept of culture--one might expect the discipline of anthropology to have been well tapped by program designers and other proponents of multicultural education. By and large, however, this has not been the case. A review of the current educational literature indicates that very few of those who write about multicultural education make any more than a passing reference to the work of anthropologists. (For exceptions, see Grant 1927a, Mitchell and Watson 1980 and Gay 1980.) An anthropological perspective and a thorough grounding in anthropological concepts are recognized by some as a prerequisite for the study and teaching of multiculturalism (Banks 1977:2; Gay 1980; Mayers and Walter 1981), but relatively few teachers have such background, and there are still few integrated anthropology and education programs for teachers.

Anthropologists who have examined multicultural educational programs and/or literature have often been critical of the movement. The basic concept of culture is commonly misused in the literature and in program design (Wolcott 1981; Gibson 1976a), and it is sometimes applied in programs in ways that create new stereotypes and new barriers (Rosen 1977; see also Kleinfield 1975). Conscious of education as a process that occurs in numerous social contexts, anthropologists tend to doubt schools can be very effective in training students in multicultural competencies (Wolcott 1981; Gibson 1976b).

Such doubts are reinforced by analyses, of anthropologists and others, revealing the primary role of schools in any society to be the transmission and reinforcement of the existing culture and its socioeconomic structure, rather than their transformation, and schools to be organized and controlled by dominant social groups (Bourdieu 1977; Bowles and Gintis 1976; Cohen 1971; Ogbu 1978; for example). From this perspective, multicultural education can at best support concurrent social changes and may even be positively harmful to the minorities whose interests it overtly serves. The incorporation of cultural diversity into school programs can be seen, for example, as a means of appeasing minority groups and distracting them from the pursuit of changes in the power structure (LaBelle 1979).

While those who subscribe to such extreme views can obviously do little to help implement programs for multicultural education, other anthropologists have turned their criticisms into positive suggestions. For example, Wolcott suggests that texts on multicultural education should be based on an understanding of culture as an abstraction used to discuss recurring patterns of behavior at many levels, should consider the functional as well as dysfunctional aspects of stereotyping and prejudice, and should at least question the notion that "to know people is to love them" (1981:8-10). He follows Goodenough (1976) and Gibson (1976b) in suggesting that the most accurate and useful conception of multiculturalism is one which portrays it as a normal part of human experience for all. Other anthropologists have emphasized that 1) culture should be viewed as a code for interaction and only secondarily as a symbol of identity (Hill-Burnett 1976); 2) culture must be seen as something everyone has and not just a characteristic of politically salient ethnic groups (St. Lawrence and Singleton 1976); 3) individual and intra-group variation in cultural characteristics is to be expected (Philips 1976); 4) the individual's development of multicultural competencies should be stressed (Hourihan and Chapin 1976); and 5) programs should be developed on the basis of thorough knowledge of local cultural variations and teachers should be well grounded in the methods as well as the concepts of anthropology (Carlson 1976). Finally, proponents should be more conscious of the social context of schooling and "more realistic about the ability of multicultural education programs to solve social problems" (Gibson 1976b:16).

Some anthropologists have involved themselves even more directly in efforts to implement multicultural education and/or to facilitate the use of anthropological concepts, content, and perspectives in pre-collegiate education. Some have designed and participated in in-service and pre-service training programs for teachers or established teacher resource centers. Others have produced materials for such centers and programs and for direct use in schools. (See Dynneson 1975; Higgins and Selig 1981; and the list of Resource Centers included in this volume.) Anthropologists produce two newsletters for pre-college teachers: Anthro. Notes (available from Ann Kaup, Department of Anthropology, Smithsonian Institution, National Museum of Natural History, Stop 112, Washington, DC 20560) and Teaching Anthropology Newsletter (available from Paul Erickson, Department of Anthropology, Saint Mary's University, Halifax, Nova Scotia, Canada B3H 3C3). In addition, many anthropologists work on an individual basis with local teachers and students.

The papers included in this volume are the result of several such efforts by anthropologists and educators to bring anthropology to bear on multicultural education, and in particular, on the classroom manifestations of multicultural education. Most were originally prepared for an all-day conference and workshop presented at the 1981 American Anthropological Association meetings and organized by Patricia J. Higgins (Committee 3 - Teaching Anthropology) and Yolanda T. Moses (Committee 7 -Committee on Blacks in Education) of the Council on Anthropology and Education. The conference/workshop was geared toward classroom teachers, administrators, and educators as well as anthropologists, and the authors of these papers include educational consultants, museum specialists, and classroom teachers as well as university anthropologists and teacher trainers. In each, specific programs or activities that teach one or more of the concepts of anthropology essential for multicultural education are discussed, and concrete suggestions are offered for colleagues interested in adapting these designs to their own educational settings.

The first three papers describe activities that require students to draw upon their own background or that of fellow students, neighbors, or community members for cultural data.

This approach is particularly useful for developing the understanding that culture is something everyone has and that multiculturalism is a normal phenomenon in human experience. The materials so generated can be used to demonstrate the pervasiveness of culture and also the diversity and the underlying similarity of American subcultures. Such materials, therefore, can be used to enhance the understanding of the concepts of cultural pluralism, cultural relativity, and ethnocentrism, in accordance with the development levels of the students involved. In addition, to the extent that the local community is ethnically diverse, this type of activity can serve as an introduction to the study of ethnicity and/or of the cultures of particular ethnic groups.

Suzanne Meyer Spina, formerly a high school teacher in Smithtown, New York, describes a project involving students in the collection and analysis of data about local youth cultures. Carried out in an overtly homogeneous and monocultural school, the project highlighted for students both the existence of different youth subcultures and the similarities between them, reinforcing the understanding that we all live in multicultural worlds. In schools with a more ethnically diverse student body this type of project could provide data as well for the study of ethnic pluralism. Spina's experience also illustrates the usefulness of such non-traditional activities for motivating low-achieving as well as high-achieving students, involving them in the "basics" of reading and writing as well as in discussion and analysis. Spina provides useful suggestions for teachers interested in developing similar projects, as well as a model course proposal and examples of materials used in class.

Dianne Kagan, an instructor of anthropology at Santa Rosa (California) Junior College, describes a similar project designed for college students. Rather than concentrating solely on youth cultures, students in her introductory anthropology course are encouraged to carry out a participant-observation study of any small group -- preferably one that is related to their career goals or other individual interests. Kagan stresses the value of such a project for motivating students to study anthropology (as non-majors) and for demonstrating the relevance of anthropological concepts in understanding our own social worlds as well as those of others. It is clear that this technique, like others that draw upon the diverse backgrounds and experiences of a classroom of students, also reveals the diversity and complexity of American subcultures.

Kikanza Nuri Webber, an anthropologist and educational consultant for the Los Angeles City Schools, discusses the use of oral histories to teach about both the concepts of culture and ethnicity and the particular content and heritage of American subcultures. She tells step-by-step how to go about this assignment and illustrates the value of this anthropological method for multicultural education. Through oral histories students can become active anthropologists learning about culture through living people rather than through books, films, or other secondary sources. Webber offers as an example a rich oral history of a self-made Black patriarch who, in the process of his life narration, talks about Afro-American traditions of four generations.

Involvement of students in another type of anthropological research is discussed in the fourth paper. Peter B. Tirrell, Assistant Director of Public Programs at the University of Oklahoma's Stovall Museum, describes several archaeology programs developed for pre-college students by museum educators, school teachers, and professional archaeologists. All emphasize direct experience and a "hands-on" approach, whether in excavating a sandbox "site" and analyzing the artifacts "discovered," experimenting with prehistoric technologies, or participating in an actual excavation. These programs have been found to be very effective in extending students' understanding of archaeology, of local prehistoric cultures, and of culture and cultural variation in general. Students learn to appreciate the cultures of others by systematic exploration of historic and contemporary cultural traditions through material cultures re-created in the classroom. As an appendix, Tirrell provides detailed suggestions and an extensive packet of materials for teachers who would like to use archaeological techniques in their classes.

Patsy Seeley, a consultant for the Los Angeles County schools, discusses the educational use of another type of cultural artifact -- obsolete films. The techniques she describes for the use of such films are especially valuable for promoting an appreciation of cultural relativity and stereotyping across time as well as space. Out-of-date films provide teachers with excellent materials for the development of students' critical viewing skills, skills increasingly necessary for effective citizenship as well as intellectual development. In addition, students learn to glean useful information from obsolete films the way one would use an old newspaper or other historical public records. In this era of shrinking budgets, Seeley provides a good example of ways in which teachers and school districts can pursue the goals of multicultural education at little monetary cost. She also provides useful lists of resources and practical suggestions.

One of the more elusive goals of multicultural education is that it become an integrated part of the total school curriculum -- that it not be limited to social studies or ethnic studies classes. Velesta Jenkins, a researcher for ERI Educational Center, describes the use of non-Western mathematics as a means of simultaneously enhancing students' mathematical concepts and skills and their cultural awareness. The examples and exercises she provides can be used in both social studies and in math courses in both pre-college and teacher training programs. Given the value our culture and our schools place on science and mathematics, these exercises are especially effective in challenging the ethnocentric notion that our ways are necessarily the right or only ways.

The last two papers discuss teacher training programs as well as pre-college classroom activities designed to teach the concepts associated with multicultural education. In the first, Kikanza Nuri Webber and Shirley J. Fiske of the University of Southern California describe the use of the simulation BaFa BaFa and its juvenile version, RaFa RaFa, to provide teachers and students with a deeper understanding of ethnocentrism, cultural pluralism, and cultural relativity and to train them to deal with cultural diversity in interpersonal encounters. Whether used with teachers or students, such exercises can help promote the interactional as well as conceptual goals of multicultural education as individuals learn to interact more effectively with others of different cultural backgrounds -- whether students, teachers, parents, or community members.

In the final paper in this collection, Delores Reed-Sanders of Pan American University and her colleagues, Sylvia H. Flores and Patricia Bacot, both teachers in the Mercedes (Texas) Independent School District, describe their efforts to train and encourage pre-college teachers to incorporate anthropological concepts and multicultural content into their classroom activities. In the process they adapted two familiar pedagogical strategies -- the inquiry approach to teaching science and the basal technique of teaching reading--for use in lessons on locally relevant multicultural topics. A sample of lessons produced by teachers participating in their workshops is included. These lesson plans and the model the authors developed to promote a scientific approach to multiculturalism will be of use to others involved in teacher training programs as well as classroom teachers.

We hope that all these papers will provide useful models and ideas for multicultural and cross-cultural educators who want to use anthropological concepts and processes in the classroom. In addition to the resources and materials appended to individual papers, a selected bibliography on multicultural education, especially as it relates to anthropology, has been included, along with a list of resource centers that produce multicultural materials for teachers and students.

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SMITHTOWN HIGH SCHOOL EAST ETHNOGRAPHY PROJECT

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The Smithtown High School East Ethnography Project represents a three-year effort to use student ethnography for two purposes -- to give students a more immediate sense of the relevance of anthropological concepts and modes of inquiry and to help students and adults learn about school and youth cultures. With respect to both purposes, the project achieved considerable success. Students with various levels of academic and social skills were involved in the project, and virtually all showed remarkable enthusiasm for the process of ethnography and increased understanding of anthropology, of themselves, and of the diversity of youth sub-cultures. Their efforts have resulted in over 1000 pages of raw data, hundreds of small scale surveys, and over 250 finished research papers; and their findings have been shared with other youth and with adults through local panels, presentations in Albany and Washington, media contacts, and several issues of a magazine entitled Hanging Out.

While Smithtown is a relatively homogeneous community with regard to ethnicity and class, the ethnographic approach to learning about the community we live or work in can be carried over into any setting. Thus, it provides a very direct way of learning about multiculturalism as it exists in the students' own community. Differences did exist within the student culture of Smithtown High School, and there was prejudice and conflict between groups such as the "heads" and the "jocks" and the "dexters" (who watched from the sidelines). Through ethnography students were made aware of their similarities as well as their differences, and by working together members of different cliques learned to tolerate, if not befriend, each other.

Establishment of the Project

My involvement with high school ethnography began when, as a public school teacher, I attended the American

Anthropological Association meetings in Los Angeles in 1978. The public school system in which I had taught for the past twelve years had recently contracted with its employees for the funding of conference attendance. Having received a B.A. in anthropology in 1967 from the State University of New York at Stony Brook, and having been an avid follower of the field since that time, I chose the A.A.A. conference as my first venture out of the classroom and into the world of the academic. While that last statement may seem a contradiction, public school teachers can appreciate my meaning.

I remember feeling awed by the research presentations given during these four days of that first conference, but I was also pleasantly surprised to see that ethnography was gaining acceptance as a means for understanding and evaluating schools. I had been teaching an introductory course in anthropology, and over the years a creeping uncertainty had been building up -- about the course, the students, and myself. "The Hunters," "Dead Birds," "Rivers of Sand" could take us just so far. Marvin Harris, Colin Turnbull, Jane Goodall and a host of others filled the book cases. Yet, somehow if we couldn't do something with all of this to help us learn more about ourselves, what difference did any of it make? Just another course, with lectures, exams, and grades.

I returned from the conference convinced that my students and I could derive additional meaning from anthropology by using ethnography to study our own culture -- the culture of the school. I was convinced as well that we could make a contribution to educational research. I had been reading ethnographers: Murray and Rosalie Wax, Joan Cassel, Francis Ianni, and Harry Wolcott. They were doing it -- they were using anthropology to understand the schools and educational processes, but still something was missing. An anthropological perspective is an adult perspective. As adults, we see ourselves as the power brokers in any institution populated by children. We view adults and the rules made by adults as the major influences on young people in public education. We acknowledge peer influence, but only as peers influence one another. What we seem to be missing, whether we are principals, teachers or researchers, is the influence those thousands of "peers" exert on the school.

In 1978, with the approval of a very progressive assistant superintendent in charge of curriculum, I began recruiting students to help in my quest to better understand the high school environment. My own enthusiasm and conviction that students could contribute to our knowledge of the youth scene helped to encourage remarkably large numbers of students from diverse backgrounds to get involved in the project. Kids who were classified as borderline dropouts or school trouble makers, as well as kids who were members of sports teams and the honor society, quickly become involved in the process that was to turn them into "instant anthropologists."

I selected 30 students I thought could help me collect data on anything and everything to do with students and their behavior in the school setting. Everyone was assigned numbers to assure their anonymity. Some typed their observations, others wrote them on scrap paper, handing them to me between classes. Some were such poor spellers and writers that I would take their papers, type and edit them. Within a month, I had 400 separate observations.

Some of the students stuck to my original request and observed and recorded behavior only as it related to school:

> One boy sitting near front apparently hadn't done any work after about 15 minutes. Teacher commented on this. Boy (Raymond) asked in loud angry tone for teacher to stop "pickin" on him. This prompted a loud reply from teacher. Class is doing book work during all this. Teacher asks class what happened between U.S. and China over weekend. Raymond said he knew and said something about a bomb, another boy said U.S. had dropped another bomb on China ... Teacher said U.S. started diplomatic relations with Red China. A boy on other side of room asked if there were anymore lollipops and got negative reply from teacher ...
>
> The first five minutes in the locker room was very quiet and all of the players were uptight and fidgety. Around 1:30 boy 1 who has just entered goes over to his locker and pulls out his radio and puts it on pretty loud ... Boy 2 and boy 3 pound some of the unused lockers with their hands. TENSION IS RELEASED. Some players sing to the music and others just move to the sound in a ryhthem-like way. A lot of the players start talking about what they're going to do to the opposition in about 1/2 hour ...

Other students strayed from my original request and began collecting information relating to outside activities:

> Two cars were parked on the Stony Brook dock. The time was 11:30 p.m. on a Wednesday night. One car was a dark green Mustang that had been "worked on." Worked on means the person who owns the car changed its motor and rear end and probably added headers so it would go faster and look better.

> The other car was an ordinary V.W. There were two people in the V.W. and three people in the Mustang. They were talking about their cars and how much time and money they had put into them, how fast they go, and how many near crashes they had ...

Some students had a difficult time observing others. Instead they wrote about themselves:

> I smoked my first joint with my sister's boyfriend. I didn't really get high, just kind of dizzy and sick to my stomach. The second time was a lot easier. Just like cigarettes. I started to feel I was fogging out my lungs. I started to notice I couldn't even run up the stairs in school and seemed always to be out of breath. I decided either the cigarettes or the pot had to go, so I threw out my last pack of cigarettes and decided to kick at least that habit ...

I labeled these kinds of papers self-reports and soon students I didn't know were handing me pieces of paper. Not only did I find myself learning more about the teenagers, but I found the young people themselves were learning:

> In doing this project, I have learned a lot about myself as well as those around me. The people I spoke with were open and honest. I was amazed at how willing people are to talk about their lives.
>
> I couldn't believe some of the answers we got ... For example, eighteen out of twenty-five kids said that they have tried hard drugs, nearly all the kids smoke, and every kid we surveyed drinks and has partied.
>
> I was surprised by the answers to my next questions, "How can kids prepare?" and "How have you prepared?" (for the outside world) ... I was surprised by their apparent willingness to work hard and to please. Being among these same students everyday, I always thought they were a bit irresponsible and uncaring. It really showed me how wrong I was or, perhaps, what good actors they were.

While the concept of training high school students to do anthropological research may seem absurd to some, there were numerous professors from the State University at Stony Brook, Suffolk Community College and New York University who willingly gave their time and encouragement to both my students and myself. They were generally as impressed as I had been by the quality of the reports students were giving me:

> The quality of observation turned in by students is remarkably good. I was excited by the potential for this project to contribute a better understanding of adolescent behavior to our current knowledge.
>
> Mary B. Hagamen, M.D.
> Director of Child and
> Adolescent Psychiatry
> Nassau Medical Center

They were also supportive of the effort as a means of understanding ourselves:

> I was impressed by ... the particular focus on the study of middle-class America. Too often social scientists have been concerned with studying and re-studying various types of social and economic minorities, and in the process avoiding confronting their own existence.
>
> William Arens
> Associate Professor of Anthropology
> State University of New York
> Stony Brook

The "Anthropology of Youth" Course

From early attempts to recruit students to help with research, the concept of youth participation in field research evolved into a regularly offered elective course in anthropology focusing on a study of youth culture. (See Course Proposal, Appendix A.) To prepare students in the use of anthropology they were first exposed to basic concepts: ethnocentrism, cultural evolution, participant observation, et al. In addition, students visited the local college to hear anthropology lectures and in turn invited college faculty back to their high school to help in the design of their research projects. All students were required to do some reading in the area of anthropology as well as in the area of youth studies. They were also required to write numerous self-reports, often used by other students in developing research topics, and as a final semester project they were required to write a paper based on their own research and focusing on some aspect of youth culture.

An important component of the project was a day spent "in the field." Students were excused from all classes for one to three days as they changed roles. Prior to the field work, students used the outline included as Appendix B to formulate a descriptive study of some aspect of their high school as a cultural scene. They developed interview questions, set up interview appointments and a schedule for classroom observations, and made arrangements with classroom teachers and administrators. After collecting as many as fifty pages of notes a day, students were asked to write about their research experience:

> I felt very unstudent-like. I felt like I was a real anthropologist because my informants treated me that way. I liked the feeling.
>
> On November 13, a Friday, I woke with butterflies in my stomach. What if my informants were deadbeats? What if I couldn't find anybody to answer my questions?
>
> As I started out my day in the first study hall we selected for observations, a substitute teacher mistook us for 9th graders and requested we go up to central unit. We had to re-explain what we were doing and by that time I was ready to pack it in.

Some of the student ethnographers exhibited considerable perceptiveness and a mature and balanced sense of judgement as they analyzed their observations and interviews in their project reports:

> Concerning rules there arises a definite conflict between teacher and student. About 90% of the informants feel that the rules in the school are excessive and too stringent ... On the other side of the coin are teachers and administrators. Not one thinks the rules are unfair ... The students want to create an atmosphere of casualness and fun while the teachers desire to have a serious educational atmosphere. Both resent each other for this and respond by taking action against each other. The teacher reacts by a restriction in student freedom and the student reacts by disregarding the rules. It is a situation that gets everybody nowhere. The teachers and students end up frustrated. Life would be much easier if negotiation was accomplished. Maybe it wouldn't end the conflict, but at least it might ease it.

> Peer pressure is, or seems to be, the creator as well as the destroyer of their (the students') lives. The people they associate with, the clothes they wear, they way they speak, the way they act, all seem to be guided by the opinions of their peers. They are not free to make decisions on their own. It is, therefore, not very easy for them to make friends with people who are not in total agreement with their beliefs ...

At the end of the semester students were asked to give some thought to what they learned from the course, about anthropology and youth:

> I learned to respect anthropologists and other field workers. They must pass through many emotional stages during their studies that it is a wonder to me that most of them don't give up on their projects before they are finished ... I think one of the biggest questions any field worker asks himself is, "Is this study relevant?" Like myself, they want to know if anyone else will find their study interesting. A study like this becomes a personal matter after a time, and if other people think it is boring, then the field worker takes these comments personally. But who is to say what is and what is not relevant? ... I'm glad I had this experience, it has made me grow as a person and that's all anyone can expect from any experience.
>
> I hope this research paper can help people understand the teenagers of today a little better. However, these students that I interviewed are only a very small number, and the ones that are the least alienated from society. What about the rest of the kids out there? What about the kids who can't bring themselves to go to any of their classes or get a job? What about those kids who are so lost in this mad world that they resort to drugs, drinking and crime? ... I only wish I could do something for them, or at least bring the rest of the people who are always saying what a rotten brunch we kids are to try to help them ... I feel that these are the problems parents and the rest of society should be looking into, not "Do you have a pass?" and "Why aren't you popular?" ...
>
> I tried very hard to make this more than just another school project. This assignment had meaning for me, more than any other thing I have done in my twelve years in school.

The community of Smithtown is white, suburban, and middle class, and the students in the schools reflect their community. While most come from economically stable environments, a significant percentage of the student population causes "trouble" in the school environment. Students registered in the Anthropology of Youth courses represented a wide range of Smithtown student behavior patterns:

> I get good grades, am popular with others like myself, get involved with theater work and am in the honor society. I also don't smoke, drink, take drugs, or cause any major disturbances.
>
> Things started getting worse for me. More trouble came my way. I started hanging out with a bad crowd and eventually was arrested for burglary. I use drugs, and drink a lot.

There were also wide differences in academic skills and ability among students in the course:

> I wuz alway a lousy student. I would be out cuting classes and doin up bowls with my friends.
>
> I have always enjoyed school, gotten good grades and found most of my teachers supportive. I plan to apply to Cornell, and since my S.A.T. scores were close to 1400, my guidance counselor thinks I have a good chance.

One benefit of the course was that it provided a special opportunity for academically weak and normally less motivated students to excel in a course project. Being objective and observant does not necessarily require good spelling. Being interested and willing to work hard is not necessarily limited to students in the honor society. While grading the students taking the course presented some special problems, the full range of grades was given, based on the teachers assessment of student involvement in ethnographic research.

As research, student ethnography is limited in that both teacher and student are restricted by their dual roles in the educational setting. Students were registered in a minimum of three other courses in addition to the course in anthropology. For many students an after-school job was yet another responsibility. The teacher too was responsible for three sections of ninth grade social studies in addition to the two elective sections of Anthropology. While the ethnography project has been a rewarding one on many levels, it has added an extra dimension to an already exhausting work day.

Suggestions for Teachers

Although I am no longer teaching at Smithtown High School, I am still interested in fostering the study of the youth culture through participant observation. Some of the materials used in developing this project are included in the Appendices; others can be obtained by writing to me. In addition, I offer the following suggestions for teachers interested in initiating a student ethnography project.

Before beginning such a project, teachers should consider the problems that can occur in exploring youth culture using high school students as researchers. A study of the youth culture is not dissimilar to opening "Pandora's Box" with regard to the destructive and sometimes illegal behavior young people may be involved in, and teachers may find themselves in need of strong administrative support. In my own case, I initially approached a person in the central administration whom I thought would be receptive to the idea and not afraid of the consequences should the study receive attention outside the school. It was my experience that students, administrators, and parents were most receptive to the idea of gaining an understanding of young people through the study. Groups of six to ten students accompanied me on more than twenty community presentations, where they spoke to members of the adult community about the youth scene and answered questions from concerned members of the audience, and we received considerable media coverage for the project. Without the support of administrators and parents, however, a student ethnography project could generate serious problems in school-community relations.

In addition, teachers involved in such projects become repositories of much potentially damaging information. When students begin to write about themselves and their lives it becomes difficult, if not impossible, to remain aloof as their teacher. During the three years I conducted the research I learned more about young people and their lives than I had learned in all the 11 preceding years I had been teaching. Before beginning a student ethnography project teachers should ask themselves, "Do I really want to know all this?" To protect individuals numbers were used on ethnographic reports -- reports which explored everything from drinking parties in the woods to burglaries and fights to teenage pregnancies. While I never encountered anyone who wanted to see the files, teachers should be aware of this possibility and consider the legal as well as the professional and emotional responsibilities involved in the collection of this type of data.

Seeking the advice and assistance of anthropologists at nearby colleges or museums can be very productive in both the planning and the implementation of a student ethnography project. At some institutions teachers may find programs in support of pre-college anthropology already underway; at others they will be able to interest anthropologists who may not have previously given much thought to pre-college education. In developing the project, I spoke with professors at two neighboring colleges, and during the three years of the project, seven professors and an adolescent psychiatrist came to the school to discuss everything from anthropological theory to setting up surveys. For the most part the involvement of these people was very helpful, and it served to further motivate the students who felt someone "important" was interested in what they were doing.

Securing suitable materials for teaching of pre-college anthropology continues to be a problem. After a careful search of the literature, I found little or no specific material directed toward high school students and their training as ethnographers. This meant adapting material on everything from interview techniques to definitions of terms. The high school anthropology course at Smithtown High School was heterogeneously grouped, which in reality meant that at least a small percentage of the students had serious reading problems. Although better than half planned to go to college, not all students could handle college level texts.

I did order and use The Cultural Experience: Ethnography in Complex Society by James P. Spradley and David W. McCurdy. Before beginning their own project students were required to read, answer questions, and take notes on the first five chapters of the book. Additional chapters that were especially helpful included "Teachers, Kids, and Conflict: Ethnography of a Junior High" and "Games Children Play: Ethnography of a Second-Grade Recess." Although this text seems simple enough in its explanation of the concepts of culture, participant observation, and data collection and analysis, it was my experience that students required considerable help with the material.

In order to familiarize students with fieldwork methodology, I showed two ethnographic films and required students to imagine themselves as anthropologists actually "on the scene." Their job was to write down as many objective details as they could. The greater the student's ability to observe and record, as evidenced by the number of entries on their paper, the higher the grade. The films varied from semester to semester, but were drawn from this selection: "Dead Birds," "The Hunters," "Nanook of the North," "The Exiles." Any number of ethnographic films could be used for this same purpose.

Another important component of a student ethnography project is enabling students to disseminate the results of their research. In addition to the community presentations already mentioned, we held an annual Student Symposium on Youth Culture in which students sat on panels and discussed research methodology and findings. The audience ranged from fellow students to neighborhood youth workers and parents. On two occasions I arranged to take students to the National Institute of Education in Washington to discuss their work and the following year students presented their findings to State officials in a public hearing in Albany. In addition, students presented the results of their work in several issues of a magazine which they founded, Hanging Out. The discussion of research results is part of the ethnographic process and high school students can effectively participate in and profit from the experience, whether it occurs in the context of a classroom or school panel or in forms that attract a wider audience.

One final suggestion for teachers who undertake a student ethnography project: a network of teachers engaged in such projects would facilitate an exchange of materials and data that could provide stimulating classroom discussions. This could include some of the student ethnographies themselves. It has been my experience that high school students like to read what other students write, whether it is an investigative report of social divisions or an autobiographical sketch. Such an exchange of ideas and information, materials and data, could advance on a broader scale the two purposes for which the Smithtown High School East Ethnography Project was originally conceived --demonstrating to students the relevance of anthropology for understanding their own world and providing valuable data and analysis on youth culture.

APPENDIX A

Course Proposal
Student Ethnography Project

ANTHROPOLOGY - A STUDENT FIELD EXPERIENCE

Behavioral Objectives:

1. The student will be able to demonstrate a working knowledge of the terms and concepts used in the disciplines of cultural anthropology.
2. The student will be able to demonstrate a mastery of the skills and attitudes used by the anthropologist in ethnographic field work.
3. The student will be able to organize and develop his/her own ethnographic field study culminating in a course project.
4. The student will conduct field observations to collect data which will become the basis of his/her project and will apply ethnographic skills in the collection of data.
5. The student will demonstrate a mastery of the resources and published materials used by anthropologists and ethnographers.
6. The student will demonstrate the self-discipline and responsibility necessary to complete the project working independently.

Course Description:

The course will consist of lectures, films and readings in addition to student-based research. Emphasis will be placed on anthropology and its role in increasing our knowledge of human behavior and enhancing self-awareness for those of us who live in complex societies.

1. Films Locally Available:
    - a. The Dani
    - b. The Cave People
    - c. High School
    - d. The Holy Ghost People

  e. The Hunters
  f. Nanook of the North
  g. Sixteen at Webster Groves
  h. A Time for Man

2. Books Available in Paperback:

   a. The Cultural Experience, J. P. Spradley and D. W. McCurdy
   b. The Forest People, Colin Turnbull
   c. The Mountain People, Colin Turnbull
   d. A Return to Laughter, Elenore Smith Bowen
   e. The Silent Language, Edward Hall
   f. The Vice Lords, Lincoln Keiser
   g. Tally's Corner, Elliot Liebow
   h. Stranger and Friend, Hortense Powdermaker
   i. Coming of Age in Samoa, Margaret Mead

   NOTE: Many of these books were found to be too difficult for high school students.

Lectures:

1. Terms (3-5 days)

   anthropology
   anthropological sample
   applied anthropology
   culture
   cultural ecology
   cultural relationism
   ethology
   ethnography
   ethnology
   fieldwork
   functional
   kinship
   linguistics
   norms
   participant observer
   rites of passage
   roles
   social anthropology
   structural analysis
   symbols

2. Role of the Anthropologist as a Social Scientist

   a. Field work
   b. Participant observer
   c. Maintaining objectivity, personal perspective
   d. Films (a, b, e or f)

3. Role of the Anthropologist in Complex Societies

   a. Traditional field opportunities is giving way to field settings in complex society.
   b. Reading from course text describing specific settings.
   c. Films (c, d, g and h)

4. The Educational Institution as a Field Site for the Anthropologist (3 days)

    a. Slide set developed during 1978-79 school year at Smithtown High School East.
    b. Student ethnographies and data analysis from Smithtown Project 1978-79 school year.

5. Student Developed Ethnographies

    a. Test-readings.
    b. Coordination of ethnographic reports with participating schools and other student ethnographers.

NOTE: Although the project at Smithtown was based on a seven period per week laboratory course in Anthropology lasting twenty weeks, other schools may implement similar projects in a more limited time frame. During the 1978-79 school year the project at Smithtown was dependent on volunteer student participation, and later students often contributed time and efforts to the project even when they were no longer enrolled in the Anthropology course.

APPENDIX B

Factors Affecting Cultural Development

Anthropology Department
Suffolk Community College

1. Environment:
   - a. Setting
   - b. Climate
   - c. Resource base
2. Utilization of Natural Resource Base:
   - a. Awareness and extent of base.
   - b. Energy available to be exploited or help the exploitation.
3. Population:
   - a. Distribution
   - b. Density
4. Technology:
   - a. Extent of tool kit.
   - b. Interrelationship to environment.
   - c. Attitude towards technology and development.
   - d. Transfer technology (trade, communications, media)
5. Economic Structure:
   - a. Who produces?
   - b. What?
   - c. For whom?
   - d. How distributed?
6. Social Organization:
   - a. Residence
   - b. Group formation--includes: family, kinship, marriage systems, descent units, and associations, status assignment, ranking societies, etc.
7. Political and Administrative Organizations:
   - a. Order maintenance/social control
   - b. Warfare versus peace (diplomacy)
   - c. Ritual

8. Religious Organizations:

   a. Beliefs
   b. Practices
   c. Personnel involved (numbers, size, force, authority)
   d. Functions

9. Ideology and World View:

   a. Logic and reason
   b. State of knowledge
   c. Philosophy
   d. Ethics and values

10. Socialization of the Young:

    a. By whom?
    b. How implies end result?

11. Aesthetic Expression:

    a. Music
    b. Dance
    c. Plastic arts
    d. Use art
    e. Folklore
    f. Drama
    g. Recreation and games

APPENDIX C

Doing Ethnographies: A Guide For Students

Before Starting:

1. Pick a subject on which to do the ethnography. Pick something that interests you or something you simply want to know more about.

2. Select a cultural scene. After picking a subject, find a place to observe. Be aware of all possible sights during your everyday routine, keeping an eye out for cultural scenes that are related to your subject.

3. Build up your self-confidence. This is more important than anything else. If you are reluctant about going and observing a "foreign" area, or are self-conscious, try to have courage! Once you get started, it will be much easier. If you just can't get started, try going with a friend the first few times, then go by yourself.

4. If possible, and if it would be easier for you, get an "informant." This is either a friend or stranger or even a friend of a friend, who is a usual inhabitant of the cultural scene you have selected. The informant can give some first-hand experiences and explanations that the ethnographer could otherwise never obtain.

The Ethnography:

The ethnography is the actual heart of the study. An ethnography is all the observations, interviews, and conversations that are recorded by the ethnographers.

The ethnographer must record what he or she observes and/or what his informant tells him. Sometimes, the observations must be recorded as they are happening. Other times, they must be written down at some time after they were actually observed, from memory. It all depends on the situation.

Use Tape Recorders Cautiously!!!

This cannot be taken lightly. Seek permission before you tape anything. This is not advice, but the law!!

When doing ethnographies, write down everything, including time, place, amount of time spent observing and any and all details observed.

Be Objective:

Once you put your views and comments into the ethnography, it changes from ethnography to editorial. Don't distort information. If two boys are smoking pot, don't say, "A large group of boys were partying their brains out." Be descriptive and it will be easier to interpret the data. You will be given an outline to be used in developing ethnographies and two sample ethnographic reports, showing the format to be used. These reports were done by students from Smithtown High School. Since all observers are anonymous, you will receive a number which is to be placed at the top right-hand corner of each ethnography you will submit.

NOTE: Developed by student ethnographer, Jeff Silverman, 1978.

PITH HELMETS FOR PLAIN FOLKS: THE ANTHROPOLOGICAL EXPERIENCE FOR THE NON-MAJOR STUDENT

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In 1969, James E. Myers cautioned us concerning the consequences of "Unleashing the Untrained" in his article subtitled "Some Observations on Student Ethnography." He shared with us some if the high points as well as the pitfalls of student ethnographic projects and left us with the thought that student ethnography was very useful and desirable but that "...more hours devoted to classroom training and closer surveillance of the proposed studies" (1969:159) would be required for student ethnographic projects to be more consistently productive adjuncts to anthropology course work. Since Myers' article appeared, there has been a proliferation of articles, guidebooks, and texts that can be used by the instructor or the student to clarify and support ethnographic projects. But these more recent guides to field methods rarely offer specific assistance to the instructor who will be supervising the student fieldworkers and they pay little or no attention to the positive merit these projects have for the non-major student enrolling in anthropology course work. The goal of this paper will be to present practical suggestions for instructors to use alongside available fieldwork guidebooks and to suggest that student fieldwork enhances the anthropological curriculum for the non-major student, as well as serving as a positive factor in developing and strengthening a campus-wide anthropology program.

When my career as an anthropology instructor began nine years ago, I was in a large anthropology department and I was not overly aware of the type of student in my classes. I generally assumed that if my students were not already anthropology majors, they were all potential majors. My task was either to train them or to entice them into the anthropological profession that I myself had chosen. But the attraction of new majors to anthropology has declined and in the face of the employment crisis in anthropology today, the use of academic conversion tactics on undergraduate students seems unethical. Nevertheless, I have not been able to abandon the notion that EVERYONE should have some anthropology course work in their preparation for life in the 20th and 21st centuries, and I have found the traditional lecture style course joined with a well-organized ethnographic project attracts and retains large numbers of non-major students in anthropology courses. Now that I recognize that I will train very few anthropology majors in the course of my present academic career, I realize with little modesty or humility that all majors need the special insights that can only come through the anthropological experience.

My use of fieldwork assignments to attract and retain students grew out of experiences over the last six years at Santa Rosa Junior College, a two year transfer and occupational college in a semi-rural area of Northern California. More out of boredom than creativity, I switched my standard term paper assignment in introductory cultural anthropology to a brief ethnographic project that I called Small Culture Study. Students were to select a group of limited size and complete a study emphasizing participant observation over the course of the semester. They were required to identify a group for study, not just a set of behaviors and after some complaint and confusion, the green ethnographers began and ultimately completed their project.

The results of the assignment were surprising from the start. Non-major students, many from pre-professional or occupational programs, grew far more enthusiastic over course material as I discussed their projects right alongside the work of Margaret Mead or Malinowski. We were using, after all, the same standards, concepts, and methodologies. And even though they would never become professional anthropologists in foreign settings, it was not difficult to see how anthropology had allowed them to consider their chosen career, their current place of employment, or an aspect of their lifestyle with new perspective and objectivity. Student nurses did ethnography while in training in hospital wards, business majors studied the office group where they were employed part-time, and the local basketball star presented a small culture study of the team and coaching staff. The satisfaction I received in seeing students use and appreciate anthropology caused me to develop and streamline the assignment for non-major students and a practical union between student interests and anthropological perspectives had begun.

In preparing this assignment I have found it important to work with three assumptions:

1. A traditional introductory survey course must
   be presented during lecture sections to provide

non-major students with cross-cultural material and to provide the appropriate foundation in transfer level terms and concepts.

2. Students must be assigned written work such as a field project or a term paper in order to earn credit at the college or university level. Either of these projects, when properly executed, should be designed to take up a similar amount of time in a student's workload.

3. It is the task of the instructor to demonstrate how anthropology is valuable for understanding humankind in broad cross-cultural perspectives as well as in every day life. If a student has interest in a local group (work oriented, philosophically based, or even recreationally oriented), the instructor should be able to guide them in approaching that group as a student ethnographer.

Because my teaching load is very high (the typical teaching load for an anthropology instructor at SRJC is five courses per semester with an average of 50 students per section), I build flexibility into the course by requiring only those students wishing to compete for an "A" or "B" grade to complete an ethnographic study. Those students not wishing or willing to attempt such a study or those unable to complete their study, may take the examinations for the course for credit but will not be able to receive a grade higher than "C" or pass, regardless of their exam average.

For instructors considering the assignment of student field projects, I would urge the study of many, very substantial guides to fieldwork listed in this paper's bibliography or any good college library. I would also suggest four additional practices that have helped organize my projects, assist non-major students, and publicize the anthropology program on a more campus-wide basis:

1. Plan to spend some time getting specific information about your students and the curriculum or vocational areas that are currently popular on your campus. I pass out 3 x 5 cards at the beginning of each semester and ask each student to tell me their name, age, and the name of a local group, club, association or work place they think they would like to learn more about by completing a brief ethnographic project. This information on the student allows me to make more reasonable suggestions about the

ultimate choice of a group to study. I also compare the frequency of various majors in my class with enrollment trends compiled administratively on campus. This practice keeps me aware of programs that might benefit in the future from learning how anthropology can be a useful elective for their students.

2. The selection of a practical and appropriate group to study is essential for the success of the student and the subsequent success of the program for future students. All students must have my personal approval on the group they wish to study and cannot change groups without conferring with me. I discourage the selection of groups that are at a geographical distance from a student's weekly routines, that involve illegal activities, or that are part of another campus class where a single individual (the instructor) creates the majority of the boundaries for group behavior or traditions. These are topics with which I have watched students struggle unnecessarily because of the limitations of time or movement within the group. I encourage the selection of a group that is already a part of the student's work or career goals, already a part of their weekly routine, or of special personal interest to the student. If students are working their way through school and are hard pressed for time in the work week, I encourage them to consider studying their own job group as a small cultural system. If students are without career goals, a job, or any special activity that might lead them to an interesting or practical ethnographic group, I suggest they consider studying the local health spa, skating rink, disco, or political or social groups as small cultural systems.

3. As we all remember from our own fieldwork experiences, getting started is always difficult. The fieldwork guidebooks that instructors can read or assign to their students make helpful suggestions for getting started, and they also recommend that students read or study already published ethnographies. These suggestions are appropriate, but I have found it additionally helpful to provide students with five or six ethnographies that were completed by students in previous semesters. I select a broad mix of examples and place them

on reserve in our library. Napolean Chagnon may be able to tell a student how it really was in the Amazon and what he saw and learned about the Yanonamo, but the same information delivered concurrently by a student colleague who worked with a very local population translates far-away or exotic anthropology into tools and perspectives that can shed light on even familiar human situations. Obviously, an instructor must utilize this project for at least a semester before this resource is available and one would want to place only very successful projects on reserve for future students.

4. During the course of the field project, nonmajor students seem to benefit from regular and concrete suggestions regarding their ethnographic project. I attempt to provide this through the following practices:

   a. During the groups selection process, I pass out or read long lists of other group students have selected in the past to stimulate current selection. Although culture permeates human activity, students often have difficulty perceiving small groups as unique cultural systems.

   b. The lectures include two hours on the field methods, techniques, and ethics of anthropology. During those lectures I continuously apply my presentation to both the ethnography done in far-away foreign cultures and to the ethnography that students are then beginning in my course.

   c. After students have made initial notes on their groups, I provide them with a list of behaviors or traditions they may wish to "look out for" in the course of a semester. The list is always based on terms or concepts that I will be presenting in lecture during the semester or that the text assigned for the course discusses. The list usually consists of terms as simple as social structure, territoriality, ritual behavior, conflict and decision making, or folklore.

   d. Any student wishing individual assistance with their field project can meet with me during office hours, but I also set aside a brief portion of a lecture hour every few weeks to ask students to discuss problems or successes they are having with their projects. These group sessions often need priming or encouragement at the beginning of the semester, but later prove to be active and productive resources for students, anxious for feedback on their work by mid-semester point.

e. Toward the end of the semester I present students with a list of the minimal features of a successful brief ethnography. The list always includes a description of the setting, a description of the group and its history, methodology used for the study, a presentation of ethnographic observations and an analysis of those observations. Students are encouraged to go back to the library and reread other ethnographies (professional and student) for further inspiration before writing up their final report.

From my experience at Santa Rosa Junior College, I would argue that the individual success of a student within an anthropology course contributes to the success of the overall anthropology program on the campus. Success in this context would be defined as providing a student the opportunity to master a body of anthropological knowledge as well as apply that knowledge in a field experience linked to a student's career or lifestyle.

It is also important to share the relevance of anthropology with campus counselors and colleagues in other programs. A few years ago, the anthropology staff requested a place on the agenda at a regular counseling department meeting. We shared our enthusiam and chauvinism for the endless usefulness of anthropology with the counselors that would be helping students to select both major and elective course work. We provided them with brief (and handy) summaries of the contents of our courses relevant to a variety of non-majors and each course number and hour. We also presented examples and excerpts of field projects and course work that made the anthropological curriculum more vividly relevant to non-major students. From these experiences I have developed the belief that without the inclusion of fieldwork as a regular part of the anthropology program, the appeal or preceived usefulness of anthropology for the non-major would diminish greatly.

It was the purpose of this paper to provide very practical information for those who would like to consider student ethnographic projects as a part of their introductory anthropological offerings. It is hoped that these suggestions, coupled with one of the better fieldwork guides, will allow instructors to perceive the utility of the project in teaching non-major students and the subsequent growth potential for anthropology programs. For my own part, these projects have provided me some revitalization as an anthropologist. In an era of few jobs and diminishing research funding, it is gratifying to rediscover that feeling of "doing anthropology" and to watch anthropology grow into a useful tool for the training of pre-professional, occupational and other non-major students.

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ORAL HISTORIES IN THE CLASSROOM

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Culture can be studied in many ways. Teachers tend to rely upon books and audio visual materials to teach about other cultures and often overlook opportunities for students to examine culture on a firsthand basis. This approach may result in many lessons about exotic, distant or extinct cultural groups to the neglect of cultural resources within students' families and communities. The oral history is one means by which students can learn more about their own cultures and about other cultures that are represented in their communities.

Oral histories, life histories, and autobiographies are very similar. A biography is the life story of one person written by another. The term autobiography implies it is a life story written by the subject, although in many cases autobiographies are told to someone else who writes it in the first person as though the subject actually did the writing. A life history is an autobiography told by a key informant and written by an anthropologist. The key informant is someone with whom the anthropologist talks at length -- someone who allows the anthropologist to probe deeply into personal aspects of his or her life to unveil deeply held values and strong emotions. (For examples of anthropological life histories see Casagrande 1960; Lewis 1964; Simmons 1942; Underhill 1979.)

An oral history could be a life history or it could be a portion of someone's life history; it may recount someone's involvement in a particular event in history rather than retelling the individual's entire life. Slave narratives are one example of oral histories which do not tell the narrator's whole life story, but rather tell of an important aspect of their lives. Most slave narratives were taken after the Emancipation Proclamation was signed, yet the lives of the ex-slaves as free people is an aspect rarely included in such narratives. (See Tyler and Murphy 1974; Gwaltney 1980.) Since the publication of Alex Haley's Roots (1976), Americans, and especially Black Americans, have developed a greater value for oral histories acquired through personal narratives.

Education should not only prepare students for their future, it should also help to make their past more understandable and their present more meaningful. A student who is encouraged to exploit the opportunity to do this by using an oral history of his or her family or of some social or political event, not only enriches his own educational experiences, but also enriches and enhances the understanding of the recorded history of his people.

This essay will discuss how oral histories can be recorded and used by students. Throughout the article, the oral history of Jacob C. Carey, who shared much of his life with me in a series of interviews, will be used as an example. The entire narrative is found in the Appendix.

Choosing an Informant

The oral history of Jacob Carey was taken because he vividly remembered stories about slavery told to him by his father who had been captured in the West Indies and sold into bondage. In addition, the Carey family is of interest because they had obtained post-secondary educations for three generations, an unusual feat for any Afro-American family. Mr. Carey, therefore, possessed *specialized knowledge* about a particular event in history -- slavery --and he represented a little publicized aspect of Afro-American culture -- the educated, middle-class family.

In general, good subjects for oral histories possess some type of specialized knowledge. A youth may know and be able to explain current rhymes, slang or games enjoyed by his cohorts. A woman may know medicinal herbs, midwifery or how to make wine. This knowledge provides the background for innumerable stories and anecdotes which would reveal aspects of the cultural groups to which such people belong. Most often, the specialized knowledge the oral history informant possesses is about his own family. Students can be helped to identify the *dominant family figure* or oral historian in their own families in order to obtain information about themselves, their relatives, the social milieu in which members of that family grew and the culture to which they belong.

The dominant family figure is the person who is central to the family network (Martin and Martin 1978). This person is the most respected member of the family, one who has proven the capacity to lead during hard times -- funerals and family conflicts -- and in not so hard times -- the picnics, reunions and holidays. This person is usually elderly, but is not always the oldest. Among Afro-American families the dominant figure is usually a woman or a couple.

The dominant family figure can be identified by what he or she does for their family. She teaches the family history, sings the same songs to two or three generations of children, and keeps the recipes for favorite dishes. She is integrally involved in socializing the children and defining family standards for deviant behavior. The dominant family figure is the one who helps to develop the sense of family among the members by fostering a sense of obligation to relatives. It is to the dominant family figure that information is given and through whom communication among all the family members is maintained.

Another feature of a good informant is that he or she is willing to share insights and generalizations and is introspective. Few people reflect upon why they do the things that they do. For example, why are contemporary Americans so preoccupied with natural foods, natural vitamins, and natural fibers when they spend a large proportion of their time and money scrubbing away the natural scents of the human body and masking them with man-made fragrances? A good informant will have some answers to the Whys regarding cultural behavior.

The value of the data in an oral history is related to the strength of the rapport between the informant and the recorder. By the time anthropologists conduct interviews for life histories, they have already established a key informant relationship. The key informant is usually the same age and sex as the investigator, and the anthropologist and informant spend a lot of time together to develop the rapport that is a prerequisite to obtaining the information for writing a life history. Students who interview family members, however, have usually already developed a close relationship with the informant, who is more often an elder of the family than a contemporary of the students.

Students who do not have access to data from family members may tap the resources of the community. Three primary sources for locating informants are friends and acquaintances, churches, and senior citizen service centers. In many communities there are also cultural centers for various ethnic groups. For instance, in Los Angeles there is a Hispanic Cultural Center, an Armenian Center, a Greek Orthodox Cathedral, an Italian Trade Center, and a Yugoslavian Village Restaurant. A phone call to any of these places would lead the students to new friends and new cultural experiences. Tapping community resources is not as difficult as it may be imagined to be. Students are always amazed at the ease with which they locate informants and the pleasure both parties receive by this sharing of culture.

Choosing a Topic

The richness of the data obtained through oral histories is unlimited. Oral histories are valuable for obtaining specific information about events and customs, but their special value is that they provide an insider's view of events and customs. They provide the investigator with a unique view of culture.

Oral histories generally provide an abundance of data on families. For example, students can learn about the structure and organization of the family and the family as an agent of socialization and of transmission of values. Jacob Carey's oral history emphasized the value his family placed on education and demonstrated how willingly people sacrificed to obtain an education.

> Jacob R. Carey taught himself to read and to write. His wife Ella could also read. At that time, fortunate Black children attended school between periods of peak activity on the farm. Most families with children attending school could only afford to send one child. Yet, despite the inherent sacrifice, all of the Carey children were sent to school.

They can also provide subtle information on the roles of men and women. For example, in speaking of his father's life on an Alabama plantation, Jacob Carey tells us,

> Though they seldom escaped, women were very important to those who did ... Because of their functions on the plantation, women had access to information on when it was safest to escape and which routes were most difficult for slave catchers to follow ... women along the escape route provided him with food, hid him from their masters, and directed him towards the next stop on his journey.

The importance of formal institutions in the lives of ordinary people can become the focus of an oral history. In the case of the Careys and many Black Americans, the church has been a key institution. Speaking on his father, Jacob Carey says,

> Jacob became a Baptist preacher. He was grateful for the success in his life, and he viewed ministering as a way to help his people. He passed on to his children not religious dogma, but moral values ... Though none of his children were avid or even regular church-goers as adults,

> Jacob did impress upon his children the need for the church in the lives of Black people. A community of Black people transmits its history and values through the church.

Every community, every family in the United States has members with interesting stories to tell. Choosing a topic on which to focus is partially a process of discovering the informant's special experiences, special knowledge, or special views. For example, most Black adults have experienced and have had the time to reflect upon at least one milestone in the history of Afro-Americans over the past century. From the seventies are Nationalists and Black Power activists. From the sixties are people who participated in the boycotts, marches, and demonstrations of the Civil Rights era. The excitement and hope felt by Black people subsequent to the Brown vs. Topeka Board of Education case in the fifties can be relived vicariously through first person narratives. Much of the unwritten histories of such events as the New Deal, the Depression, the northern migration of Afro-Americans and World War I can be recorded by talking with people who lived through them.

Gathering the Data

Having selected an informant and a tentative topic, students must carry out an interview to collect the data. Younger students cannot be expected to conduct interviews as exhaustive or comprehensive as an anthropologist. They should, however, be provided with standards and guidelines.

Students should prepare themselves for interviewing by writing the questions they want to ask. They should be guided to think through the process of interviewing to the finished product. What do they want to learn? What do they want to say? Who else are they going to interview? How can they verify the data they collect? The answers to these questions will help to determine what questions the informant must be asked.

In addition, students must be assisted in the technique of questioning. There are probing questions, "What did you think when ...?" -- clarifying questions, "When you said ... what did you mean?" -- and focusing questions, "Let's go back to ... can you tell me ...?" Students must be made aware of the various types of questions and their appropriate use. As a classroom exercise, students might practice interviewing one another. In most cases an interview should be carried out in person, and students should make a special appointment with the informant for this purpose, even if the informant is a member of the family. In some cases, it may be acceptable to interview over the phone. In this case, the interviewer and informant should make an appointment, just as they would if meeting in person, and plan to spend an agreed-upon amount of time on the telephone. The telephone can also be used to fill in gaps in information after a face-to-face interview.

During the interview session, students may want to use a tape recorder. They should, of course, ask permission before the session. They then should make certain they have fresh batteries and a long cord and are familiar and comfortable with the equipment. If possible, students should also gain access to photographs, scrapbooks, Bibles, diaries and other family records to both verify information and to get another view of their informant in the family context.

After the interview the students must arrange the data into a narrative. Transcripts from tapes must be edited to glean the most useful information. The informant may have been forgetful, bored, distracted, or irritated during the interview. Moreover, the data is often incomplete and seldom in chronological order, and it may be distorted by the amount of time which has passed since the events being recalled took place or by the informant's desire to give the interviewer the information which she thinks he wants. Data on specific events or customs can also be influenced by the informant's opinions. The students can highlight those things they want to emphasize by rephrasing statements and restructuring the order.

Recording oral history is not always easy. It requires patience and diligence. Students may worry that the interview will not be successful. They do need to be prepared for the interview, but they can also be assured that most people are flattered to be asked to talk about themselves, their experiences, and their views. Often the problem is not in getting them to talk, but in getting them to stop talking or to talk about the specific interest of the interviewer. (For more on oral history methods, see Edgerton and Langness 1974 and Langness 1965.)

Using the Narrative

Oral narratives and histories can be used in many courses. The process of collecting and reporting the oral history is directly related to the content of many speech and journalism courses. The narrative itself, depending on the text, can be used in a myriad of ways.

The information from Mr. Carey's story, for example, could be embraced in the study of the slave trade; a comparison of slavery in the Caribbean to American slavery; or a study of the underground railroad. Historical narratives and personal accounts of others could be compared to the elder Carey's experiences in the Civil War. Jim Crow laws and their effect on American society, especially in relation to Black soldiers in American wars, and the perennial issue of the quality of educational opportunity for Afro-Americans are also areas of study illuminated by this particular narrative.

The geography of the United States (or the world) can come alive and become personally meaningful if one follows the migration of a family like the Careys and attempts to determine what routes were actually taken while exploring alternate routes and the consequences of each, given the mode of transportation available. Another interesting topic for which the Carey narrative could be used as a springboard is the role of Christianity in the lives of Black people and the historical development of the Black community.

The oral history itself is an important part of the culture and heritage of some groups. Anthropologists and linguists (Herskovits 1958; Turner 1949; Dillard 1972) have authenticated and chronicled the role of the oral historian among Afro-Americans. Because many African languages were not written, information was transmitted orally. Within the social systems of certain African cultures, the occupants of a specific role, that of *griot*, had the function of remembering and teaching to his successor the genealogy and important historical events of his family or clan.

Africans captured by slave traders were separated from family, kinsmen, and linguistic and cultural groups. Those families which evolved from the slave sub-cultures on the plantations and managed to survive as symbolic if not physical units maintained and sustained the continuity of their families by oral transmission of personal and collective histories. Thus the responsibility of the *griot* became less specialized and was assumed by all family members. Even today adroitness in storytelling and personal narratives is characteristic of a significant segment of the elderly Black population.

Conclusion

Oral histories are especially useful in promoting the goals of multicultural education. Personal histories foster positive group and self images. A people's own story, rather than one written by others, intimately instills pride in themselves, in their ancestors and in their people. Oral histories provide a cultural interpretation of how and why a people exist as they do, and the classroom provides an outstanding opportunity for collecting and recording portions of one's own family history. Moreover, it is an excellent vehicle for students to participate in the preservation of their culture's traditions.

Besides providing an opportunity to learn about the particular cultures represented in a classroom, oral histories provide a means of studying historical and cultural change. Cultural patterns and historical events come alive because they are linked to the life of a known individual.

In addition, oral history can help students master the concept of culture. Students may be unmindful of their own culture and quite detached from cultures about which they have read, and they often isolate aspects of culture from the individuals who are members of that culture. Oral histories reveal the interplay between the individual and the culture and can also be a means of linking the abstract with the concrete, a means unparalleled by other classroom activities. The informant is in some ways a living example of what the student has read or known only at an abstract level. In other ways, the informant is likely to be unrepresentative of the group, and his or her personal history and views will give the student a more subtle view of cultural variation.

Knowledge of the Carey family underscores the importance of balancing society's image of Black people and other minority ethnic groups. For -- contrary to what has been depicted by films, the news media and popular academic literature -- there are many Afro-American families whose socio-economic and educational achievements are tantamount to those of the Carey's. The self-image of Black people and society's image of Afro-Americans are augmented by discussing the information gleaned from Jacob Carey's oral history and the oral histories of others. America's image of any cultural or ethnic group must not be limited to the characteristics of a portion of its members. An oral history of any American family is an ideal source for verifying historical texts, contributing to the positive self concepts of a people, correcting stereotypic images, and increasing one's awareness and understanding of cultures.

APPENDIX

Jacob C. Carey Narrative

The present national attention given to the diversity of racial and ethnic groups in this country has promulgated a new interest among many American peoples -- and a resurgent interest among Black Americans -- in their ancestral backgrounds. This interest is manifest in the identification of residual African cultural traits present in the Afro-American subculture such as the value placed upon verbal agility in the Black community (Kochman 1972) and the oral transmission of family histories. The elevation of America's ethnic consciousness has once more exposed the collective American conscience to the atrocities of slavery, the struggles which Black people have waged to maintain family continuity, and the unpropitious circumstances in which Afro-Americans have been educated. Although Afro-Americans have inhabited this country since 1619, they have had the legal right to become literate only since 1865. The Supreme Court did not mandate that American public school systems provide quality education to Black people until 1954 (Kluger 1975).

So renown are these national policies and their consequences that the stereotypic image of the education of Black people is now reflective of the most inferior educational programs proffered by schools in America's urban centers. To advocates of increased opportunities for quality education, this image has been advantageous in expediting responses to demands. However, to the many Black people who, by tenacity of spirit, have managed to eke from society a good education, the sterotype of poorly educated Black people has proven to be detrimental to their attempts at reaping the societal rewards for educational achievement. Stereotypes such as this have historically diverted attention from the many positive achievements of Black Americans and the growing number of middle-class Afro-Americans (Billingsley 1968).

Exemplary of a Black family whose history since slavery has been kept alive orally, which has sought and obtained post-secondary education for all of its members, and which has sustained a middle-class standard of living for three generations, is the family of Jacob C. Carey, a jaunty octogenarian who works as a real estate broker in Los Angeles, California. The writer has attempted on these few pages to highlight the life of a delightfully interesting man while underscoring the value for education reflected in the lives of his family members.

The data presented were gathered primarily during two taped interviews in Mr. Carey's office. The interview sessions lasted a total of five hours. The narrative which follows, though written in the third person, has been taken from the taped interviews with the informant. The entire narrative is either a paraphrase or a direct quotation of Mr. Carey. Data from the tape transcripts were verified by comparing them with American history texts and with a family history written by one of the Carey grandchildren. Quotation marks are used for literary emphasis. All conclusions, generalizations, and admonitions are Mr. Carey's.

J. C. Carey -- "Find a Way or Make One"

"I am the son of a slave."

In the mid-1800s, Jacob Rousseau was "young, Black and free." He was never certain of his exact age, but thought he must have been 14 or 15 years old. He had gone down to the dock near his home in Trinidad to earn 25¢ helping on board a trading ship while it was being loaded. When the work was apparently finished at the day's end, the 150 boys coming on deck from the ship's hold realized they were about three miles out to sea. Some of the frightened boys jumped overboard and were drowned trying to swim to the shore they could no longer see. Jacob Rousseau decided to take his chances and escape later.

The freighter docked at Jamestown, Virginia, the site where the first slaves had been brought to the United States over two hundred years earlier. By this time, one-third of the human cargo had been lost to illness, fright or drowning. In Virginia, Jacob was put on the auction block. Because he was young and healthy (he weighed perhaps 150 pounds), the slavers received for him the highest price of the day -- 72 bales of cotton. Years later, Jacob realized that since his new master had no way of knowing how well he could work on the tobacco plantation, he must have been purchased for breeding.

Shortly after his purchase, Jacob Rousseau was renamed Jacob Carey by his master. Very soon after he arrived on the plantation in Alabama, he began to plot his escape. The women on the plantation played an integral role in his plans. Though they seldom escaped, women were very important to those who did. Women have done a great deal for the Black race. It is even possible that they have done more than men because "they could always get closer to the White man" than Black men could. Because of their functions on the plantations, women had access to information on when it was safest to escape and which routes were most difficult for slave catchers to follow. The woman who helped young Jacob interpreted the spirituals sung around the plantation. These songs were codes which announced the passing of the underground railroad, the presence of slave catchers, the announcement of slaves preparing to escape. She, as well as other women along the escape route, provided him with food, hid him from the masters, and directed him towards the next stop on his journey. This woman also gave him red pepper which she had sequestered from the big house. She instructed him to use the pepper to cover his path and thus divert the dogs used by the slave catchers from his trail.

Jacob's escape from Alabama to Ohio -- a free state -- took over a year. Jacob was an arrogant, stubborn young man with a "stout" personality. No doubt these traits along with his "tenacious spirit" motivated and sustained him during his sojourn. In Ohio, he was helped by an abolitionist to secure a job as a basket weaver. During his travels North, he had seen a poster offering a reward for his capture and stating his monetary value. Since he was also a very honest, moralistic person, he began to send his former master money, with the intention of buying his freedom. By the time the Civil War broke out, he had paid half of the advertised price.

Jacob Rousseau Carey wanted to fight in the Civil War. Like many of the Black soldiers, he was not given a gun for combat. Instead, he built bridges and cleared roadways over which cannons were transported and foot soldiers maneuvered. By the end of the war, Jacob Carey was back in Alabama. There he had begun life in America as a slave, and to Alabama he returned as a free man. It was also in Alabama that he met and married his wife and that he began his career as a preacher.

He had always been deeply religious. Jacob became a Baptist preacher. He was grateful for the successes in his life, and he viewed ministering as a way to help his people. He passed on to his children not religious dogma, but moral values. "We learn most of our background in the church." Though none of his children were avid or even regular church-goers as adults, Jacob did impress upon his children the need for church in the lives of Black people. A community of Black people transmits its history and values through the church. Children are given social training and elementary schooling; youth receive leadership training. Ella Carey, in her quietly aggressive manner, also strongly influenced the moral character of their family.

After their marriage, Jacob and Ella traveled -- preaching and sharecropping -- from Alabama to Louisiana, to Palestine, Texas. Still a very proud man, Jacob found it difficult to abide by the degrading Jim Crow laws. Consequently, in 1891 he "got into trouble with the Whites" and had to move his family across the Red River into Oklahoma. There he staked a claim and built a house. On his claim was an underground spring over which Jacob Carey built a well. Again, however, he was involved in an altercation with his White neighbors, this time over the possession of the well. He was forced to pack his family and move once more. In 1892, Jacob Cornelius Carey, the twelfth son, was born. He was the last son and his father's namesake.

"We were a self-made family."

Jacob R. Carey taught himself to read and to write. His wife, Ella, could also read. At that time, fortunate Black children attended school between periods of peak activity on the farm. Most families with children attending school could only afford to send one child. Yet, despite the inherent sacrifice, all of the Carey children were sent to school. The young Jacob was taught to read by his older brothers before he attended school. This collective concern reflected the strong family spirit and sense of pride within the Carey clan which was always apparent. All of the offspring seemed to be inculcated with the honesty, aggressiveness, and tenacious spirit of the father.

Times were hard then, economically and socially. Fear of being lynched made it difficult for Black people to live comfortably around "White folks." Even in rural Oklahoma there was too often not enough room for both races. Racial oppression -- riots, lynchings, killings -- and economic depression created the environment in which J. C. Carey grew up. Consequently, there was no time in the Carey home for folktales or fantasy stories. The Rev. Carey didn't even place much emphasis on Bible stories. "You have to know where you came from in order to be proud of where you are and to get to where you're going. We came from nowhere and we've got to remember that." All of the Carey children strove to live good, prosperous lives and to achieve great things; some did so more colorfully than others. One sister married a preacher, as her mother had. Two brothers left home to keep the company and the money of older women. One brother worked in the U.S. Mint, another as a navy bean farmer, and a third successfully established himself as an attorney, despite his elementary schooling. The life of J. C. Carey also did much to enliven the pages of the family history.

"I knew my stuff."

Perhaps because he was the youngest child, perhaps because times were a little easier, perhaps because Jacob

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and Ella wanted a little more for their favorite child, J. C. Carey was able to continue his schooling beyond grammar school. He attended the segregated Dunbar High School where two teachers were responsible for about 35 students. Although the teachers had completed only "junior college," they were very well educated because they were self trained. They worked hard to learn as much as they could of whatever they could, and then to teach all they knew to their students. Having studied Latin, English and algebra, the younger Jacob considered himself to be a "crack mathematician" who knew his "stuff." As a confirmation of his self appraisal, Jacob C. Carey was the valedictorian of the first graduating class at Dunbar High. Jacob admired Booker T. Washington as a Black man who struggled to become educated and continued to work to help improve the lives of other Black people. Throughout his life he sought to "always take a Black man for an image." Jacob was impressed by a speech he heard Washington make. "He tried to convince us to do for ourselves -- to not lie or steal. I remember because my mother taught me not to lie or steal. He was a mild and passive speaker." But Jacob chose to give a "fighting" valedictory address -- "Find a Way or Make One" -- which he did all of his life.

Graduation was the biggest event in Carey's life; however, his "biggest break" came as a result of his graduating. He had wanted to continue his formal schooling, but the cost of even transportation made the immediate fulfillment of this goal prohibitive. A German banker who attended the Dunbar graduation exercises was so impressed by Carey's fighting speech and feisty spirit that he offered Carey a summer job as bank courier, and in the fall he sent him to Western University, a Black preparatory college in Kansas founded by the African Methodist Episcopal Church.

Even with the "big break" that pleased and awed his family and friends, going to school was a financial handicap for Carey. Mr. Quinette, his benefactor, died at the end of his second year at Western and Mrs. Quinette had no desire to continue her husband's philanthropic endeavors. Nonetheless, Carey was determined to graduate; he stayed out of school for one year to work, then scrimped and sacrificed food and clothing for books and tuition. In 1917, he graduated from Western and enrolled in the University of Kansas. "I'm going to make it," he thought -- just before he was drafted into the army.

"I thought I was rich."

Carey was sent to Europe in the 815th Labor Battalion. America still had a Jim Crow army and, like his father, Carey built bridges and dug trenches for the soldiers in the

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combat units. After the war, he returned to Oklahoma where he taught high school Latin and mathematics. The school was closed by the first major coal strike in America, which was organized by John L. Lewis. Glad for the break, "professor" Carey moved to Kansas City and later to Omaha, Nebraska. He worked for the I.R.S., the Post Office and then for himself as the owner of a dry goods store and finally as a realtor.

"Necessity," Mr. Carey says, "is the mother is invention." Necessity proved to be the impetus for his learning shopkeeping. It was his business acumen, however, that proved to be the sustenance of this endeavor. Carey's two stores remained open and profitable for over thirty years. According to Mr. Carey, "Real estate is the best way for a poor man to make money." So, he learned the fundamentals of real estate, obtained a license, and proceeded to "make a little change."

During this period of financial development, Mr. Carey did not neglect his intellectual growth nor the value for education which had been fostered by his father. As soon as he had begun to "make a little money," he started to contribute to Western University. With his wife, he founded the Charles Gilbreth Literary Society, the members of which read and discussed classical and contemporary literature. He later became active in the American Legion and served on the Boards of the Urban League and National Association for the Advancement of Colored People. Always associating with people who knew as much or more than he did, or with people who actively sought knowledge, Mr. Carey continued to share not only his knowledge but his value for education and achievement.

Mr. Carey grew up during a period of great racial strife. He vicariously experienced the oppression of his father, first as a slave and then as a Black man during the prime period of Jim Crow legislation. He, himself, was victimized by the racial prejudice which forced him to attend segregated schools and to fight in a segregated army. Just as his father had moved his family to elude oppressive racism, "vicious race riots" in Nebraska forced Carey to move his wife and three children. "Prejudice is the one thing that keeps this country from being truly great. Prejudice even hampers our world activities." Mr. Carey wanted his children to grow up in an atmosphere that was not tainted by overt racism and the fears it engendered. He felt that he was "pretty wealthy for a poor man," so he moved his family to California.

The Carey family has continued to prosper and to foster values for education and achievement in each generation.

Mr. Carey's children have all attended college. His son is the president of a computer software corporation and his daughters work for the company as corporate administrators, computer programmer and data processor. His grandchildren have all been given university educations. One is a journalist; another is studying engineering. There are also Carey grandchildren in law school and medical school. Clearly, Jacob C. Carey has found a way for himself and made one for his family.

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ARCHAEOLOGY FOR ELEMENTARY AND SECONDARY STUDENTS

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Thousands of elementary and secondary school students participate in educational archaeology programs provided by museums in the United States. These students may be involved in tours of exhibits and laboratories, discussions and media presentations, "hands on" exercises with artifacts, simulated site excavations, actual field excavations, or laboratory work. The educational material associated with these programs may include readings, films, loan kits of artifacts, educational guides, or units of study coordinated with existing curricula. Through these programs the students and their teachers have an opportunity for discovery and creative thought; they become aware of the special skills of an archaeologist; and they understand the importance of preserving sites. They learn how the study of past cultures is greatly expanded and enriched through archaeology. They also learn how people, separated from themselves in time, technology, and world view, shaped and were shaped by the environment, and they achieve a deeper understanding of cultural variation.

Museums have a unique opportunity to develop programs which stress the value of archaeological sites and collections. With this goal in mind, the Stovall Museum has developed a series of innovative archaeology programs which have been given to several thousand elementary and secondary students in Oklahoma. The programs have come about through cooperation and sharing of resources by the Stovall Museum, local schools, and the Office of the State Archaeologist, while funding has been provided through state and federal agencies and program fees charged participating school systems.

The basic outline and structure of the programs were designed by the Museum's educational staff, with input concerning content and underlying methods and aims of archaeology from archaeologists with the Oklahoma Archaeological Survey and the Archaeological Research and

Management Center. Several teachers and the social science coordinator from the Norman Public Schools participated in planning, conducting pilot programs, and implementing and evaluating the programs. Museum educators, school teachers, and professional archaeologists all believe these programs have been especially effective in imparting methods, concepts, and values of archaeology to young people.

One successful program has been the Basic Archaeology Laboratory, a classroom experience which provides a full day of inquiry-approach activities for the sixth grade classes of the Norman Public Schools. It is the core activity of a week-long unit on Oklahoma archaeology, coordinated with existing social science curricula. The primary laboratory activity is excavation of a sandbox "site" planted with artifacts and artifact copies from the Museum's education collection. The artifacts are grouped into assemblages corresponding to several of Oklahoma's best-known prehistoric cultures. Students follow basic excavation procedures using brushes, small picks, and screens.

When the excavation is completed, the artifacts are identified by comparing them with sketches of artifacts and with objects in a special reference collection, and they are tallied on a site analysis sheet. Students are encouraged to hypothesize as to the use of an artifact by discussing its observable physical characteristics. The identification and tally process provides a way for students to analyze sites and formulate descriptions of the archaeological cultures represented. An attempt is made to determine the chronological order and complexity of sites on the basis of artifact types and clues to relative age. Most important is the ending discussion on the way of life suggested by each artifact assemblage.

In addition, students participate in several activities which focus on tool-making and food-processing tasks of prehistoric peoples in Oklahoma. Museum study specimens of mammals and birds, plant materials, copies of prehistoric farming tools, and models of several different kinds of dwellings are available for students to observe and handle. Students try grinding corn on stone milling basins, using pump drills to perforate shell and wood, and using bone awls to punch leather.

At the conclusion of the program Museum staff members demonstrate and discuss several important tools, such as the bolas, atlatl (throwing stick), bison scapula hoe, and bone-tipped digging stick.

The Basic Archaeology Laboratory has become an integral part of Norman School curricula, with over 3000 students participating in the past five years. Encouraged with the success of this program, the Museum developed a similar program for the secondary level. Workshops for educators have also been given at meetings of the Oklahoma Education Association and the Oklahoma Museums Association and through a series of National Science Foundation programs at the University.

Complementing the Basic Archaeology Laboratory has been "Archaeology in Action," a field program given at Spiro Mounds Archaeological State Park in 1979 and 1980. Here 39 high school students have had an opportunity to participate in actual excavations at one of the most important sites in Oklahoma. The students were supervised and trained by Museum staff and archaeologists of the Oklahoma Archaeological Survey. Each two-week program included orientation and training sessions, surveying and mapping, excavation, field interpretation, and demonstrations such as flint-knapping. The students worked the same schedule as crew archaeologists and attended instructional sessions in the evenings. The students also visited other sites or museums with archaeological collections in the area. An equally important job for the students was a role as on-site interpreters for visitors to the park.

Successful museum-school archaeology programs are provided by many additional museums in the United States. From a survey conducted by the Stovall Museum, 45 institutions are known to have educational programs in archaeology. In total, over 68,000 students are involved annually. (See Appendix C.) The largest and best-known field program is the program produced by Northwestern University at the Koster site in Illinois. High school students have been a part of this project for nearly a decade. More recently, the Museum of Natural History at the University of Alabama has developed a field program at the Moundville site for high school students similar to Stovall's Archaeology in Action. Other exceptional programs include that at the Valentine Museum, Richmond, Virginia, where an entire room has been gridded off and the floor raised to provide space for excavation pits. Thus, it appears that there is a strong national interest by museums to develop archaeology programs at the elementary and secondary level.

One might ask how successful Stovall's archaeology programs have been as positive educational experiences. Both museum and public school educators observed positive changes in students' attitudes and knowledge after participating in the Basic Archaeology Laboratory. Beginning discussion indicated that most students had a limited understanding of Oklahoma prehistory. When asked about prehistoric people in Oklahoma, a typical answer would be "cavemen," "Pilgrims," or "cowboys." "Vikings" was also heard frequently. By the end of the Laboratory the students were talking with respect of prehistoric Oklahomans as resourceful and intelligent human beings. The idea of religion, art, and trade no longer seemed out of place in a prehistoric context. Students also recognized the need for antiquities laws, preservation of sites, and leaving of archaeological excavation to well-trained personnel. They had learned some principles of archaeology as well as facts about Oklahoma's prehistoric inhabitants. They had a better perspective on Oklahoma history.

These observations were supported with a series of evaluative tests in which several sixth grade classes were asked to answer questions on Oklahoma prehistory and archaeology before and after they took part in the laboratory. Two years later they were retested and found to have retained a significant amount of information -- as well as constructive attitudes toward archaeology. Thus, the original goals of the program were achieved.

The field program, Archaeology in Action, has also met these goals. Although specific testing was not undertaken, the program was evaluated by the Chief Archaeologist of the Spiro Excavation Project, an independent professional archaeologist from a funding agency, student participants, and the Museum education staff. Students overwhelmingly attested to the educational value of the experience, even suggesting that all high-school-age Oklahomans should have the same opportunity. The Chief Archaeologist was impressed with the public interest created by the program. The independent evaluator stressed the positive elements of a humanities approach. The museum staff were especially impressed with the cooperation between agencies.

There are other results which illustrate the positive nature of these programs. Students did make a real contribution to archaeology by helping to collect data from an Oklahoman site. Three students in the field program stayed at the Spiro site after the Museum program ended, working as regular crew members. Many students reported on their activities for school classes or community organizations. A number have repeated the field program, and four students are pursuing archaeological studies at the university level, indicating that these programs may generate interest in archaeology as a career. According to several professionals, field experience at the secondary school age level may be especially helpful to decisions of college-bound seniors who may have a starry-eyed view of anthropological field work.

In addition, these programs ease the cultural impact of archaeology. Not everyone in our society likes archaeological activities. In Oklahoma, archaeologists have been shot at, and in one case artifacts have been confiscated by local authorities. Too often, scientists aren't even seen as real people. One local employee described his "arkologist" boss as "a little wiry haired weird guy, - he's wiry-haired cause he's from the university, and he's weird because he's an arkologist." While archaeologists may bear the brunt of immediate concern, museums must live with it forever. A common complaint is that: "they came and dug it up and took it away -- now its locked up in the museum -- I'll never tell them about anything I find." The programs developed by the Stovall Museum have increased the students' appreciation for archaeology and that of the general public as well.

Museum-school archaeology programs provide an educational experience which is not available in books, exhibits, or lectures. As educational programs rather than research programs, they may receive negative criticism from archaeologists. Most frequently, the suggestion is that the programs are "watered down" or that "they don't present the whole story." This does not negate the value of the programs. Sixth graders know they don't become archaeologists with simulated excavations. Certainly, field experiences must be carefully planned, closely and constantly supervised, but a genuine participatory approach is necessary, where students do more than carry dirt.

The value of these programs in preserving our sites and collections cannot be underestimated. The majority of students participating in archaeology programs will pursue careers in areas other than archaeology. However, these students will be voters who affect where highways run, what rivers will be dammed, what tax dollars will be spent on pure and applied research. The long term value of the programs is an enlightened society, better able to make choices which not only affect archaeological resources and activities but which ultimately affect the course of human history.

There are several key elements to successful student archaeology programs. The first is professional input and participation at all stages of planning, implementation, and evaluation. The professionals are teachers, archaeologists, and museum staffs. Archaeologists, especially, need to respond to the interest of schools and the wider public. A second element is a "hands on" concrete experience with real artifacts or facsimiles. The material for these experiences comes from museum collections or through actual excavations in the field. The final element is an inquiry approach of a holistic nature. The program should provide many different experiences, all scientifically sound and accurate. With the professional input of museums, archaeologists, and teachers, they will continue to provide an excellent avenue of archaeology to the students.

APPENDIX A

North American Archaeology Unit: Introduction to Teachers

The resource materials and activities included in these appendices are suggestions for teachers and students who undertake a unit of study in North American archaeology.

Units Goals and Objectives

1. Students will be able to identify how the archaeologist uses the pieces of the past to tell the history of early people.
2. Students will learn how the study of human culture and history is greatly expanded and enriched through archaeology.
3. Students will be able to perform experiments and arrive at hypotheses and conclusions like the archaeologist does.
4. Students will understand the fundamental natural principles of archaeology including layering, sequences, association, etc.
5. Students will learn scientific methodology, and the importance of preserving archaeological sites by leaving excavation to well-trained persons rather than to "pot hunters."
6. Students will become more aware and appreciative of the rich cultural history of the United States.
7. Students will become familiar with major concepts and vocabulary used in archaeological study.
8. Students will appreciate the resourcefulness of prehistoric people in utilizing their environment.

Concepts to be Developed

Anthropology-Sociology

- Culture
- Human Ecology
- Mankind
- Growth
- Social Groups

Geography

- Land/Man Relationship
- Maps
- Areal Coherence
- Ecology
- Natural Resources

Economics

- Economic types
- Scarcity
- Production
- Growth
- Interdependence

History

- Prehistory
- Cause and Effect
- Change
- Continuity
- Evidence
- Historical Perspective

Skills to be Developed

This unit presents opportunities for students to acquire or practice skills involving critical thinking, locating and gathering information, organizing information, evaluating information, acquiring information through reading, listening and observing, communicating orally and in writing, and also in interpreting maps, charts, and pictures.

APPENDIX B

North American Archaeology Unit: Classroom Activities

For many activities, teachers will need access to artifacts, or copies of artifacts, and various natural materials such as rocks, trees, plants, animal bones, etc. Teachers may obtain these materials from museums, historical societies, government agencies, sportsmen and local collectors. Care should be taken to avoid encouraging additional unprofessional collections of artifacts. In addition, there are state and federal laws governing collection of native birds, mammals and other wildlife (including bones, teeth, feathers, etc.). Professional museum staff and archaeologists should be contacted for specific assistance. Copies may also be obtained from some "flint knappers," persons skilled at making facsimiles. Commercial companies offer kits or reproductions, etc.

I. Introductory Activities

A. Prehistoric Time

1. Introduce the students to a time chart which will be used throughout the unit. A chart eleven feet long (six inches equals 1,000 years) could be used on the floor, a wall, or blackboard. Instead of paper, a clothesline with colored pins could be used. The time chart can be used to introduce or review the following skills and concepts:
    - a. Use of scale.
    - b. Comprehension of the Christian system of chronology -- B.C. and A.D.
    - c. Use of specific date/events as points of orientation in time.
    - d. Acquisition of a sense of prehistoric time.
    - e. Recognition of sequence and chronology.
2. Section the time chart according to scale into B.C. and A.D. Mark 1,000 year intervals.

3. Label on time chart reference events:

    a. Current year.

    b. Birth year of most class members.

    c. Other events for which students can recall dates.

4. CONCEPT: "prehistory." Emphasize that prehistory varies with each culture. For example, the history of Oklahoma begins in 1540 A.D. when the first Europeans came on expeditions into this area and wrote journals of their experiences, describing the land and the people they found here. Without written records, archaeologists can learn about "prehistoric" people by studying other remains.

B. Recognizing Artifacts

How can you tell whether an object is an artifact? Utilizing a group of real artifacts (or close copies) and naturally occurring objects, have students attempt to determine which objects are artifacts and which are not. If possible, allow the students to handle and compare the objects, possibly to determine their use. (As an example, students may wish to determine if flint chips could be used to cut leather.) The students might list characteristics of manmade objects versus characteristics of natural objects on the chalkboard or a chart.

CONCEPT: Artifacts have characteristics which come from being shaped or manufactured by man. These characteristics are not present on naturally occurring objects.

EXAMPLE: Comparison of projectile point and pointed piece of flint.

Projectile Point	Piece of Flint
Symmetrical when viewed from above or from the side;	Not symmetrical. May have bumps or irregularities;
Regular flake scars on both sides;	Irregular flake scars;
Base shaped so point can be hafted on a shaft;	"Base" irregular or poorly shaped;
Resembles other points in museum or private collections.	Unique shape.

C. What Substances Are Artifacts Made of?

The students can experiment to answer this question. Gather together three sets of everyday items and bury them somewhere on the school grounds, mapping and measuring the "burial" sites. Include items of different materials, such as bone, paper, wood, glass, plant parts, stone, metal, etc.

Have the students hypothesize on what items will be the same when dug up weeks or months later. Later, dig the "sites" and compare the actual changes which have taken place with the changes that were predicted. What caused these changes? What objects will outlast all others?

CONCEPT: Most artifacts which survive weathering and being buried a long time are made of hard, durable materials. Soft materials usually decompose.

D. Stratigraphy and Chronology

How does an archaeologist know the chronological sequence of cultures? Students can begin to understand the importance of stratigraphy in establishing chronology with this exercise.

Have a week's stack of newspapers arranged in order with the earliest date on the bottom and the latest date on top. Have the students go through the stack and record the dates as they remove each paper. Consider these questions:

1. Is there a sequence here?
2. Why is the most recent date on top of the stack?
3. Why is the earliest date on the bottom of the stack?
4. How did the stack of papers come to be in a sequence like this? (Answer: Every day when the family finished with the paper, it was placed in a box where a stack of papers was being saved for a paper drive.)

CONCEPT: In undisturbed material, the deepest layer is the oldest.

Now have the students go through the stack of newspapers again and see if they can find any front page stories, comic strips, weather reports, or other material where the same subject is developed or continued from day to day. Discuss these and why this is so.

CONCEPT: Materials in different layers often overlap. Change takes place gradually, through time.

Now consider what would happen if the dates from each newspaper were removed and the papers were stacked in a random way? Is there any way we would restore the sequence?

Answer: Perhaps -- if we can follow the stories in some articles or comic strips. But this would be inferring a sequence indirectly from the way we expect things to happen, rather than deriving it directly from undisturbed layered materials. It would be a probable sequence -- not an actual sequence.

CONCEPT: When archaeological layers are disturbed -- by pot hunters, amateurs, or highway crews -- the chronology of the layers is usually lost.

E. Artifacts for the Future

What are the artifacts of the future? One of the most productive areas of a site for an archaeologist is a trash heap or dump where prehistoric people tossed their broken pots and stone tools, as well as food refuse. Things like animal bones, corn cobs, seeds, and shells may tell the archaeologist a great deal about what these people ate. The broken tools are often complete enough to show what the tools were like, and the pieces of broken pots can often be glued back together to show the size and shape of the vessels.

In the future our city dumps will tell others about our culture. What do we throw away? What will be found in a hundred or two hundred years. Students can list items that are thrown out in their households for several days. This list can be compared with a list of items which the students _want_ to be found in the future. What things would tell future people about our culture?

CONCEPT: Much can be learned about a culture by studying what has been discarded, as well as studying things that were intentionally preserved.

II. Simulated Site Dig Activities

A. Description

Alternative A:

This simulated experience is designed for teaching the fundamental laws and concepts of archaeology to school students. Through actual participation in a "dig," students develop a better understanding of the abstract aspects of archaeology. They also learn the importance of preserving archaeological sites by leaving excavation to persons well-trained for the task, rather than to "pot hunters."

With an "archaeological site" modeled after real sites in your area, students see first hand the steps involved in an archaeological project -- survey, site identification, excavation, photographing, and record keeping. The site is a simply built "sandbox," planted with artifacts or copies. You may wish to have one be a modern day site, or one from some other time or geographic area.

Obtain the assistance of local professional and amateur archaeologists, and museum staff in setting up the sites, with appropriate assembledges and levels.

Students may be interested in naming their site after its contents, its represented way of life, or its geographic location.

Use extra artifacts, pictures, slides, etc. to form a labeled "mini-collection" where students can compare their site artifacts and identify them.

Alternative B:

Each group of students is given two sets of cards representing items found at two levels of a site. They also receive a two grid sketch of the levels showing the placement of the items in relationship of each other. (Another method might be to provide grid sketches. Teachers could mount the sketches on cardboard and cover them with brown paper.) Students view the grid sheets and cards and record findings on "Site Analysis Sheet." Students complete Phases 2 - 3, as in Alternative A.

B. Outlines of Activities

Phase 1: Organization and Dig

Teacher prepares equipment and plants the sandbox site with artifacts. (See sections C and D following.)

Students are arranged in teams and assigned sites and tools. They have seen an archaeologist at work at an actual site or in films and will follow similar procedures. A chart of these can be posted in the room. (See sections E and F following.)

Students are provided identification sheets and grid drawings for sketches (see section G) and bags for use as they excavate. A transparency made of a "good" sketch can illustrate the importance of placement and relationship to other items and the awareness of levels at a site.

Phase 2: Site Analysis

One student (item arranger) removes items from the bag. Students need to work together as a team. They consult with each other about what they think the items could have been used for. Students need to be reminded to consider all properties of an object: shape, substance, points for determining functions.

Students use reference charts, slides and other objects to identify the objects at their sites. They are to check the times on the Site Analysis Sheet.

Students can be reminded of prehistoric cultures in your area--they are to identify which culture is at their site. Point out to students that culture identification is done by looking at what is and what is not present at the site.

Phase 3: Interpretation - Description

Based on the evidence (something concrete that can be used to solve a mystery or problem) students identify characteristics of the life style of people at the site. (See section H following.)

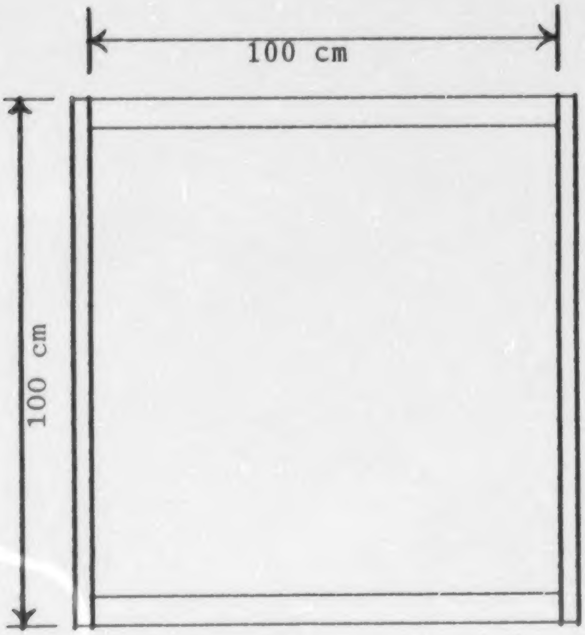
Students write several sentences describing the people who lived at their site. They must give reasons for their conclusions based on the evidence at the site. "The people at our site were ... because ... evidence was there ... evidence was not there." They also determine an approximate age or period of their site.

Each group prepares a chart written for their site:

	Level 1	Level 2
site	Description Age	Description Age

The reporter for each team presents this report and a class chart is compiled. Comparisions of sites can be made on the basis of age and cultures. The conclusions of the group can be checked with the "Summary Chart" after reporting.

C. Basic Equipment/Construction for Archaeology "Dig" in the Classroom



SITE BOX

Need: four 1" x 6" boards, cut to the lengths in diagram; and 12 8-penny common nails.

Construct as seen. Frame has no bottom.

ADDITIONAL NEEDS

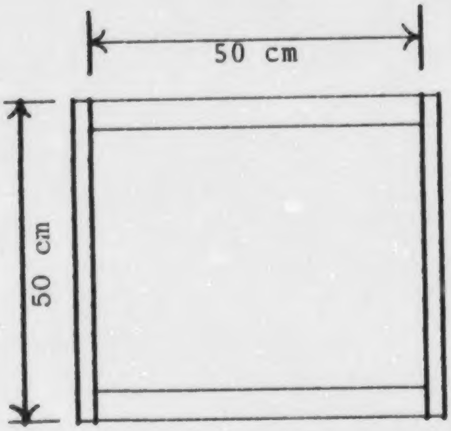
Several brushes (2" paintbrushes);

Toothbrushes (for cleaning artifacts;

Sand to fill SITE BOX;

Wastebasket or large bucket to catch sifted sand;

Large (4'x4') sheets of heavy duty polyethelene sheeting for floor to be spread under SITE BOX and other equipment.



SCREENING BOX

Step 1

Need: four 1" x 6" boards cut to the lengths in diagram; and 12 8-penny common nails.

Construct as seen.

Step 2

One piece of 1/4" mesh cut to fit bottom of SCREENING BOX.

4 strips of screen molding cut to length of SCREENING BOX.

Step 3

Place screen on bottom of box, cover with screen molding, nail down securely.

D. Sample Set-Ups for Simulated Site Boxes

"TRASHMOLINE SITE"

Level 1 - Plains Village Culture

Include charcoal, sherds, turtle and animal bone refuse, arrowpoints, scrapers, bone, tools, daub, flint flakes, hematite, hammerstone, corn, shell, refuse, etc.

Level 2 - Clovis Culture

Include clovis point, fossil mammoth or mastodon tooth, pieces of fossil bone, flakes, choppers, hammerstone, maybe charcoal.

"SIXKILLER SITE"

Level 1 - Forager Culture

Include nutting stone, charcoal, hammerstone, shell refuse, mammal and bird bone refuse, turtle refuse, seeds, nuts, stone beads, drills, Gary and other dart points, cores, choppers, bifaces, San Marcos point.

Level 2 - Folsom Culture

Folsom point, flakes, fossil bison bone pieces, bifaces.

"BOIS D' ARC SITE"

Level 1 - Caddon Farmer Culture

Include shell hoe, "seashells," hematite (paint stones), red polished potsherds, tubular bone beads, cowrie shells, stone beads, bone and shell refuse, corn, charcoal, daub, drills, scrapers, hammerstones, arrowpoints, knives, flakes, incised shell, etc.

Level 2 - Early Farmer Culture

Include bone and shell refuse, cord-marked potsherds (or substitute corrugated sherds), stone beads, cored bifaces, dart points, drills, arrow points, stone hoes, etc.

"RUDOLPH SITE"

Level 1 (only) - Plains Village (with contact materials)

Include flint chips, potsherds, charcoal, bone refuse, cowrie shells, metal tinklers, hawk bells, trade beads, metal scrap, hammerstone bone tools, scrapers, daub.

Have some surface material showing -- old crockery, bits of glass, square nails, pieces of harness, etc.

E. Group Organization

It is best to have a maximum of five students on a site team.

- 2 diggers
- 1 sand sifter
- 1 item sorter and arranger
- 1 team reporter

Each student completes a "Site Analysis Sheet" as the team completes the dig.

Before students begin to work, they should view films or have readings which discuss and show archaeologists at work using the following tools and showing the following procedures.

TOOLS

rope
trowels
brushes
sifter (screen)
site analysis sheet
plastic bag
tags

PROCEDURES

Phase 1: Dig

1. Research and locate site;
2. Grid the area;
3. Prepare analysis sheet;
4. Remove sand;
5. Sift sand;
6. Brush sand away from items;
7. Draw sketch of items and label;
8. Put items in bag;

Phase 2: Site Analysis

9. Item identification;
10. Recording in chart;

Phase 3:

11. Interpretation of item;
12. Description of culture based on evidence.

F. Rules for Student Archaeologists to Follow

1. Measure everything carefully before you begin to dig.

2. Keep each level as straight as possible, measuring around all four walls.

3. Draw all large artifacts on graph paper to indicate where each was found.

4. Sift carefully; small items might be fragile.

5. Keep track of where you found everything; important items might be related to other things in a special way.

6. Don't jump to conclusions. Remember that you need a lot of evidence before you can say anything definite.
7. Keep accurate records. Write everything down, no matter how small it seems.

G. Sample Identification Sheet

Your Name ____________________
Your Site ____________________
Date _________________________

STONE ITEMS
Gary points
Folsom points
Arrow points (under 2")
Spear points (over 2")
Drills
Small scrapers
Large scrapers
Cores
Choppers
Knives
Nutting Stones
Hammerstones
Groundstone beads
Hematite (Paintstone)
Sandstone abraders
Sandstone awl sharpener
Flint flakes

BONE ITEMS
Bison bone digging stick
Leg bone awl
Bone splinter awl
Bone beads
Shaft wrench
Gaming piece
Other worked bone
Bone refuse
Fossil bone or horn
Turtle shell or bone
Fish bone

SHELL ITEMS
Shell beads
Shell hoe
Shell refuse
Cowrie shells (sea shells)

METAL ITEMS
Metal cone (tinkler)
Small brass bell

VEGETABLE ITEMS
Charcoal
Corn Cob

On each grid, draw the items in the area of the site where they were uncovered. You may use symbols or numbers for the items. Be sure you provide a legend

LEVEL 1:

LEVEL 2:

CLAY ITEMS
Plain, brown or black pottery
Corrugated (rough) pottery
Polished red/black pottery
Black-on-white pottery
Daub (clay with grass imprints)

H. Sample Lab Site Interpretation Sheet

Your Name ____________________________
Your Site ____________________________
Date _________________________________

Interpretation: You have now identified all your artifacts. You should have a good idea about the people who once lived at your site. Describe the way of life of the people from your site. The artifacts and other things you found are your evidence. You may use your imagination, but you must back up your statements with the evidence you have found.

Discussion: We will discuss the following questions as a group.

1. Compare your site with others in the class. Look for as many differences and similarities as you can.
2. Which site is the oldest? How do we know?
3. Which site is the most recent? How do we know?
4. Which is the oldest way of making a living, hunting or farming? How does the evidence in the dig prove this?
5. How can we tell from our evidence that the spear is older than the bow and arrow?
6. Which site had the most complex culture? How do we know?
7. Which site had the simplest culture? How do we know?
8. How can we relate the life of prehistoric people to our own? What was the same about their lives and how were they different from us?

9. What do you think of the archaeologist and his/her work? What do you think about Antiquities Laws? Why?

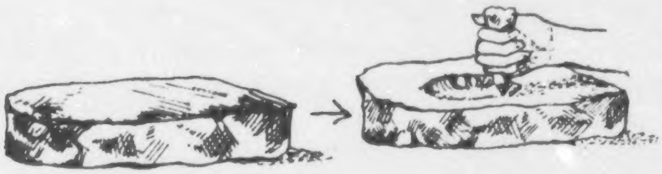
III. Enrichment Activities

The following activities relate to the resourcefulness of prehistoric people in utilizing their natural environment. Students can gain an appreciation for the abilities and skills required to survive.

A. Corn Grinding

Many native peoples in North America grew corn as a staple crop. Corn has many uses, and was one of the greatest developments of the Indians. After harvest, many ears would be dried for future use. It could be used during the winter, boiled, made into puddings or porridge, or ground into meal for corn bread or corn cakes. To grind corn, you need a grinding stone, a milling basin and dried corn. (The Spanish names for such equipment are mano, matate and maize.)

1. Find a large, flat chunk of sandstone. (This may be purchased from a landscape supplier, or you can use a cement slab -- DANGER! Do not let students eat corn ground on cement slab.) It should be at least 18" x 10" and 5" thick. Using stones or chiesel, carefully make a depression in the top. The depression should be 5" in diameter (or larger) and about 3" deep in the center.



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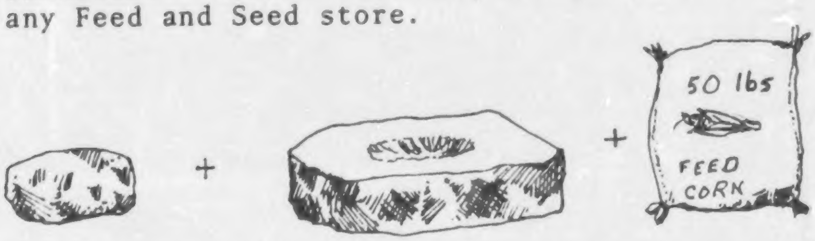
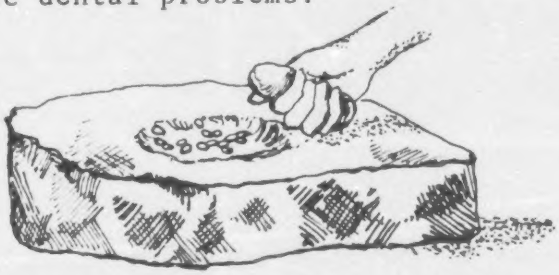
2. Find a grinding stone. It should be a fist-sized rock, made of some material harder than sandstone. Dried corn may be purchased at any Feed and Seed store.



3. Place a small handful of dried corn in the milling basin. Tap kernels gently in order to break the kernel open. Grind in a circular or up-and-down motion until the meal is fine. It may be used to make something. Students will notice it is very gritty because of the sandstone content. This may lead to some interesting discussions about prehistoric dental problems.

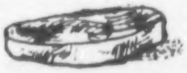
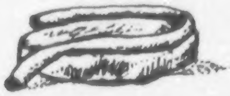
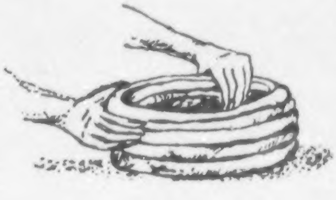


B. Pottery Making

There are several methods of pottery making, and three of these can be adapted for use in the classroom. You can purchase potters' clay commercially at very reasonable prices. The least expensive clay is not well adapted to firing, but is suitable for making a pot, then allowing it to "sun dry." If firing is to be done, a higher quality of clay should be used. The following directions also include recipes for making "home made" clay.

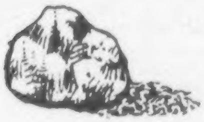
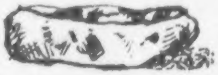
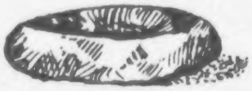
Coiling Technique

Clay is rolled in the hand to form coils. Coils are then built up layer by layer on the base. Smoothing is done by gently pressing coils together with the fingers, then smoothing with a smooth shell or potsherd. Fingers and shell should be wet occasionally to keep the clay pliable. Another method is to build up the coils, then strike the outside with a wooden paddle against a rounded stone or clay sherd held inside the wall. This method takes more skill than smoothing.

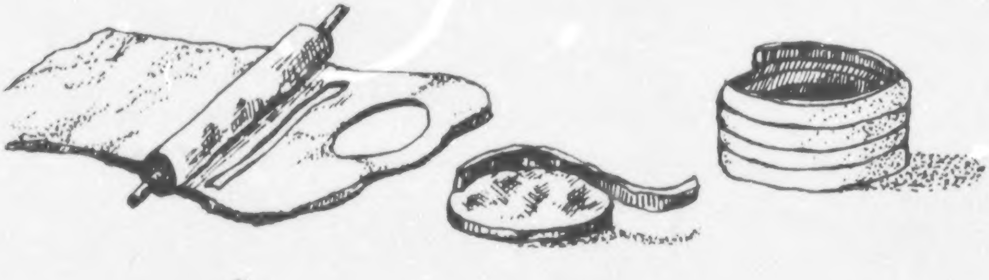
Pinching Technique

This method consists of molding the pot by pinching and pushing the clay into the desired shape.

Slab Technique

This technique consists of rolling the clay out as cookie dough and cutting the desired shapes. Then the shapes are pressed into place on the pot.



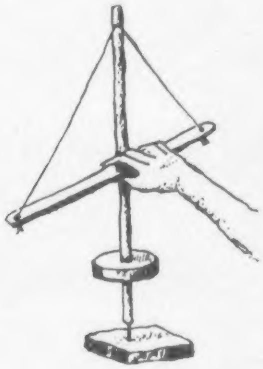
Clay

Mix in saucepan until thoroughly blended 1 cup corn starch, 2 cups baking soda. Mix in 1-1/4 cups cold water, adding a few drops of food color for tinted clay. Cook over medium heat about 4 minutes, stirring constantly until mixture thickens to moist mashed potato consistency. Cover with damp cloth to cool. Knead as you would dough. This produces a very smooth clay which glistens.

C. Pump Drill

The pump drill is an ancient tool that was used by Indians throughout the Americas. The pump can be used either to make fire when using a hard wood tip, or to bore holes when a stone or metal drill is inserted in the shaft tip. It can be operated with one hand, leaving the other hand free to hold the material. The pump drill is a handy tool still used by Indians and craftsmen, and is quite simple to construct.

TO OPERATE A PUMP DRILL, give the shaft a few turns as shown, and press down. The momentum will rewind the cord, the cross arm going up at the same time. Then press down again and keep pumping.

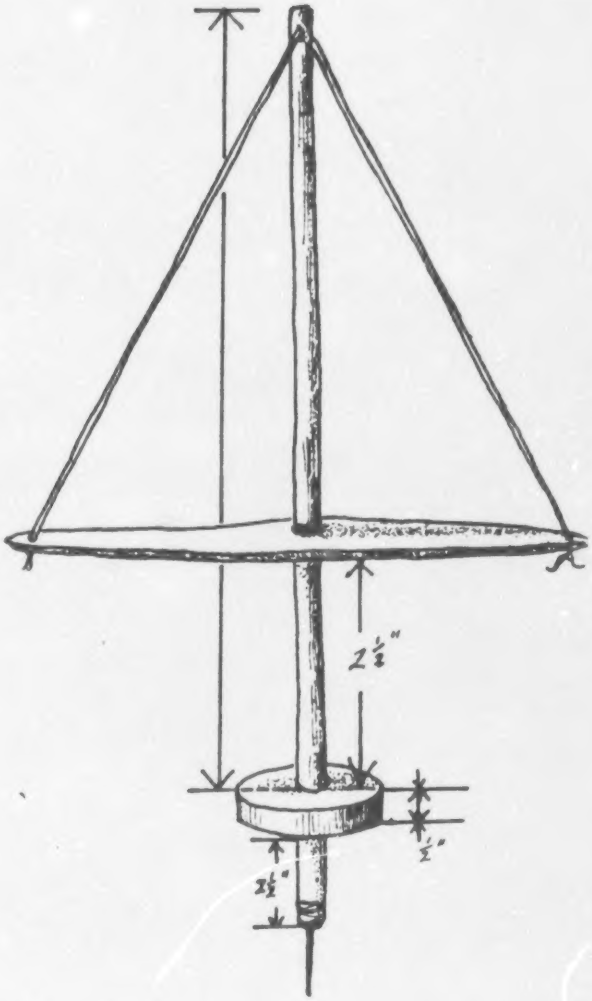


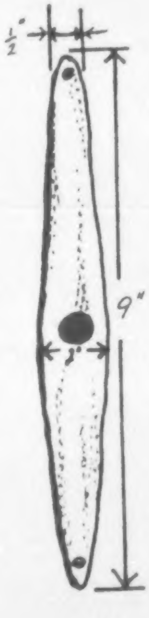
Materials:

3/8" or 1/2" wooden dowel;
3" diameter wooden disk;
9" x 1" piece of wood for cross arm;
28" long leather thong or strong cord;
nail for drill tip;
glue.

Directions:

1. Bore a hole at top of dowel, or a groove for thong.
2. Bore a hole in the center of the wooden disk. The disk must fit snug on the shaft. Glue in place and secure by tying cord directly above and below the wheel.
3. Bore a hole in the center of the cross arm that is slightly larger than the shaft. Bore holes at each end for the thong.
4. For a fire pump, slightly shape the tip of the shaft. For a drill, drive point into tip of shaft; or split the end of the shaft, insert the metal tip, secure with glue and rawhide or wire wrapping.





D. Brush Arbors

Prehistoric Indians probably built brush arbors next to their tipis or permanent houses during hot, dry months of summer and early fall. This was the best way to keep cool until air conditioning was invented. Many daily tasks were conducted in the shade of the arbor, and families could also sleep there on hot nights. Arbors could also be erected as temporary shelters at hunting camps or tribal gatherings. Brush arbors are cooler than tents for they provide shade without trapping hot air. A brush arbor consisted of a frame of posts and willow poles covered with leafy willow branches. Here are directions for a small arbor.

Materials: 2 upright posts of postoak or elm with Y-shaped forks in upper end, about 7' long;

1 ridge pole of oak or other straight, strong wood, about 8' long;

9 willow poles. Select straight, limber willows about 2-3" diameter at bottom, and about 10-12" long. Trim any side branches. You can peel off the bark in strips and use for ties, or leave it on the poles;

6 or 8 more long willow poles, perhaps a little smaller than above for use for cross poles;

2 or 3 carloads of leafy willow branches -- cut slender branches 4-5' long, the more the better. Remember -- the leaves will dry and shrink;

Strips of willow bark, hemp bailing twine, or other material for lashing.

To build:

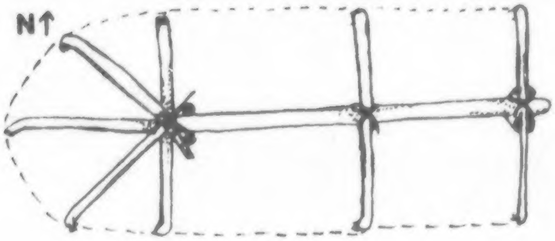
1. Set upright Y-forked posts in ground about 1-1/2 feet deep and far enough apart to accept ridge pole. Use post hole diggers. Tamp dirt firmly about post with ax handle or other tamper. Bottom of the Y-fork should be about 5-1/2' above ground surface.

2. Place ridge pole in forks of uprights and lash securely in place.

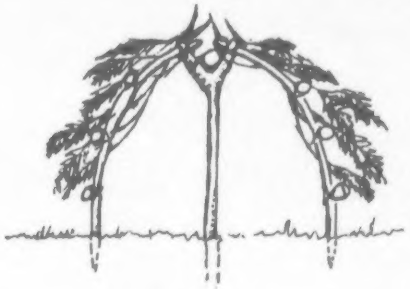
3. Sharpen ends of 9 willow poles with ax and mark where they will be set. Dig small holes about 4-5" deep for them unless ground is soft enough to set them in securely. Bend tops of these poles down and in and lash securely to the ridge pole. Let these poles bow out so the interior will be roomy. Place 3 poles along each side, and three poles at the back.

4. Lash crosspoles in place, about 2' apart. More poles may be used if you want the thatch to come down close to the ground.

5. Roof the arbor with bundles of willow poles with the cut ends up and the leafy tips hanging down. Begin with the bottom layer and work up.



Floor Plan - Frame



Front View

The arbor should be thatched close to the ground on the south and west sides to provide good shade for most of the day. The front of the arbor is left open and most Indians have this main opening on the east side. A smaller opening could be left on the northwest side by leaving out one willow pole.

Look for willows along the river and banks of streams, ponds, and bar ditches. Small, leafy willows -- not large tree willows -- are what is needed. Be sure to get property owners' permission before cutting trees or willows.

Appendix C

Resources

A. Institutions with Programs (1980)

ALABAMA:

Moundville State Park
Moundville, Alabama

Museum of Natural History
The University of Alabama
University, Alabama

ARIZONA:

Casa Grande Ruins
National Monument
Coolidge, Arizona

CALIFORNIA:

Fort Roosevelt School
Hanford, California

Museum of Cultural History
Los Angeles, California

Merritt College
Anthropology Museum
Oakland, California

The Museum of Man
San Diego, California

COLORADO:

Mesa Verde National Park
Mesa Verde, Colorado

CONNECTICUT:

American Indian Archeological Institute
Washington, Connecticut

GEORGIA:

Etowah Mounds
Archaeological Area
Cartersville, Georgia

ILLINOIS:

Foundation for Illinois Archaeology
P. O. Box 1499
Evanston, Illinois 60204

Community High School District #218
c/o Dr. Mike Harkins
Worth, Illinois

INDIANA:

Angel Mounds State Park
Evansville, Indiana

IOWA:

Effigy Mounds National Monument
McGregor, Iowa

KANSAS:

The Museum of Anthropology
The University of Kansas
Lawrence, Kansas

KENTUCKY:

Museum of Anthropology
The University of Kentucky
Lexington, Kentucky

MASSACHUSETTS:

Robert S. Peabody Foundation for Archaeology
Andover, Massachusetts

Childrens Museum
Boston, Massachusetts

Harvard Semetic Museum
Cambridge, Massachusetts

Peabody Museum of Archaeology and Ethnology
Cambridge, Massachusetts

MICHIGAN:

Chippewa Nature Center
Midland, Michigan

NEBRASKA:

University of Nebraska
State Museum
Lincoln, Nebraska

NEW JERSEY:

Archaeological Research Laboratory
Wayne, New Jersey

Van Ripper-Hopper House/Wayne Museum
Wayne, New Jersey

NEW MEXICO:

The Maxwell Museum
Albuquerque, New Mexico

The University of New Mexico
Albuquerque, New Mexico

NEW YORK:

The Gravesend Historical Society
Gravesend, New York

Museum of Archaeology at Staten Island
Staten Island, New York

Archaeological Field Museum
New York Institute of Anthropology
West Fulton, New York

NORTH CAROLINA:

North Carolina Museum of Life and Science
Durham, North Carolina

Museum of Man
Wake Forest University
Winston-Salem, North Carolina

OHIO:

The Cleveland Museum of Natural History
Cleveland, Ohio

OKLAHOMA:

The Museum of the Great Plains
Lawton, Oklahoma

Stovall Museum of Science and History
University of Oklahoma
Norman, Oklahoma

OREGON:

Portland Childrens Museum
Portland, Oregon

SOUTH DAKOTA:

W.H. Over Museum
Vermillion, South Dakota

TEXAS:

Youth Cultural Center
Waco, Texas

UTAH:

Anasazi Indian Village State Historical Monument
Boulder, Utah

VIRGINIA:

The Valentine Museum
Richmond, Virginia

WASHINGTON:

Washington State Historical Society
Tacoma, Washington

Pioneer Memorial Museum
Tacoma, Washington

B. Films

"Archaeological Dating" (S,C,A) Source No. 6;

"Doorway to the Past" (S,C,A) Source No. 1;

"Graveyard of the Gulf" (S,C,A) Source No. 5;

"Indian Cultures from 2000 B.C. to 1500 A.D." Source No. 6;

"Indian Origins: The First 50,000 Years" (S) Source No. 6;

"Myths and the Moundbuilders" (S,C,A) Source No. 3;

"Paleo Point Manufacture" (S,C,A) Source No. 11;

"The Atom and Archaeology" (S,C,A): Source No. 4;

"The Big Dig" (S,A); Source No. 6, 9;

"The Early Americans" (E,S,C,A) Source No. 7;

"The First Americans: Part I & II" (S,C,A) Source No. 2;

"The First Americans - Some Indians of the Southlands" (S) Source No. 5;

"The Hunters: Parts I & II" (S,C,A) Source No. 8

E = Elementary (Grades 4, 5, & 6)
S = Secondary
C = College
A = Adult

FILM SOURCES

1. Academic Support Center
   Film Library Scheduling
   505 East Stewart Road
   Columbia, MO 65201

2. Audio-Visual Center
   Indiana University
   Bloomington, IN 47405
   (812) 337-2103

3. Documentary Educational Resources
   5 Bridge Street
   Watertown, Massachusetts 02172

4. Energy Research and Development Administration
Film Library - TIC
P.O. Box 62
Oak Ridge, TN 37830

5. Film Library
The University of Texas at Austin
P.O. Box W
Austin, TX 78712
(512) 471-3573

6. Instructional Resources Center
Himes Hall, Room 118
Louisiana State University
Baton Rouge, LA 70803
(504) 388-1135

7. Shell Field Library
Scheduling Center
5000 Park Street North
St. Petersburg, Florida 33709

8. University of Arizona Film Library
Bureau of Audio-Visual Services
University of Arizona
Tucson, AZ 85712

9. University of California Extension Media Center
2223 Fulton Street
Berkeley, CA 94720

10. University of Nebraska
Instructional Media Center
Division of Continuing Education Studies
421 Nebraska Hall
Lincoln, NB 68588

11. University of South Florida
Division of Educational Resources
Film Library
Tampa, FL 33620

12. University of Texas
Instruction Media Center
Division of Extension
University of Texas at Austin
Austin, TX 78762

C. Books

Baldwin, Gordon C.
1962 *America's Buried Past: The Story of North American Archaeology*. New York: Putnam, (S,A)

Baldwin, Gordon C.
1967 *Calendars to the Past: How Science Dates Archaeological Ruins*. New York: Norton, (S)

Baldwin, Gordon C.
1965 *The Riddle of the Past: How Archaeological Detectives Solve Prehistoric Puzzles*. New York: Norton, (E,S)

Baumann, Hans.
1962 *The Caves of the Great Hunters*. New York: Pantheon Books, (A)

Brennan, Louis A.
1973 *Beginner's Guide to Archaeology*. Harrisburg, Pennsylvania: Stackpole Books, (A)

Ceram, C.W.
1971 *The First American: A Story of North American Archaeology*. New York: Harcourt, Brace Jovanovich,(A)

Claiborne, Robert and Editors.
1973 *The First Americans*. New York: Time-Life Books, (S,A)

Clymer, Eleanor.
1969 *Second Greatest Invention-Search for the First Farmers*. New York: Holt, Reinhart and Winston, (A)

Coon, Carleton S. and Hunt, Edward E., Jr., eds.
1963 *Anthropology A to Z*. New York: Grosset and Dunlap,(A)

Deetz, James.
1977 *In Small Things Forgotten: The Archaeology of Early America Life*. Garden City, New York: Anchor Books, (S,A)

Deetz, James.
1967 *Invitation to Archaeology*. Garden City, New York: Natural History Press, (S,A)

Folsom, Franklin.
1974 *America's Ancient Treasures*, revised edition. New York: Rand McNally, (S,A)

Folsom, Franklin.
1966 *Science and the Secret of Man's Past*. Irvington-on-Hudson, New York: Harvey House, (S)

Fortiner, Virginia.
1962 *Archaeology as a Hobby*. Maplewood, New Jersey: C. S. Hammond and Company, (E.S.A)

Freeman, Mae Blacker.
1967 *Finding Out About the Past*. New York: Random House, (A)

Friedman, Estelle.
1958 *Digging Into Yesterday*. New York: G. P. Putnam & Sons, (E,S,A)

Glubok, Shirley.
1966 *Art and Archaeology*. New York: Harper and Row, (A)

Glubok, Shirley.
1978 *The Art of the Southeastern Indians*. New York: Macmillan, (E)

Hall, Jennie.
1964 *Buried Cities*. New York: Macmillan, Inc. (A)

Hole, Frank and Heizer, Robert F.
1973 *An Introduction to Prehistoric Archaeology*, 3rd edition. New York: Holt, Rinehart and Winston.

Honour, Alan.
1967 *Treasures Under the Sand*. New York: McGraw-Hill, (E,S,A)

Hudson, Charles M.
1976 *The Southeastern Indians*. Knoxville: University of Tennessee Press, (A)

Jennings, Jesse D.
1974 *Prehistory of North America*, 2nd edition. New York: McGraw-Hill, (A)

Jessup, Ronald.
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E = Elementary (Grades 4,5,6)
S = Secondary
A = Adult

104

A NEW LOOK AT OLD FILMS

Patsy Seeley
Educational Consultant
Los Angeles County Schools

Kevin: "Well one of them is civilized -- but then the other one was more Indian."

Teacher: "Indian?"

Kevin: "They weren't as civilized. They didn't have toasters ..."

We have dropped into Gayle Blumel's fourth grade class in Pasadena, California, while the children are involved in discussing two films on Africa they have just viewed. The teacher's question was, "What did you see?" Sorrely says, "...they were Indian tribes -- one (film) was kind of (like) Pasadena." Steve suggests that the group of dancers, called "pygmies" by the narrator, were poor, for "they look like they didn't have clothes or anything." He felt that "they didn't have much food because they (were) skinny and stuff."

The Beginning

The fourth graders and a class of eight graders were participating in a special project designed to explore the educational value of out-dated films on Africa. The project, designed by consultants on the staff of the Office of Los Angeles County Superintendent of Schools, grew out of a reassessment of the procedures usually followed in weeding obsolete films from the Film Library. The library collection of films on Africa had been scheduled for review, for many of the films dated from the 1960s and dramatic changes had taken place in the countries of Africa since then. To the Library consultants involved in reviewing the films, it became obvious that many of these old "obsolete" films contained historical information that would be difficult for students to obtain in other forms. Some, photographed over twenty years ago, could never be replicated today. These "out-dated" films, though faded and scratched, were valuable visual records of a time gone by -- presenting information about people, events and places that have felt the force of a great social, economic and political change. Properly used, such materials could provide students with a window on the past, and for students having difficulty in reading social studies text, the visual images accompanied by the film narration could be a major source of information.

A committee composed of Eugenia Bernthal, former elementary principal and consultant in Pasadena Unified School District, and Jo Bonita Perez, Pat Seeley and Phoebe Webb, consultants in the Office of the Los Angeles County Superintendent of Schools, was formed to consider ways the library might continue to use the "historical" films. On the premise that the old films could serve as learning aids, the questions the committee considered were:

1. Would teachers use the films?
2. What information should the library provide teachers about the films?
3. What help would teachers need in order to use the films as sources of historical data?

The Project

A pilot project was developed to re-evaluate the dated films on Africa, to identify films that should be maintained in the library for their historical value, and to propose productive ways to use these. The initial work of the committee focused on developing review criteria. Questions to be answered while re-evaluating each film included:

1. Is the film a historically accurate and balanced picture of the region, cultures and/or period?
2. Does the film contain messages that perpetuate racial, sexual or ethnic stereotypes?
3. Is the film misleading due to the presentation of limited visual and narrative information?
4. Do the visual images support and/or reinforce the narration?
5. Does the pacing of the film, the wording or delivery of the narration tend to distort the messages?
6. Is the music appropriate? In what ways is music used in relation to the visual and narrative messages?

7. Is the content of the film presented in an interesting and informative fashion?

8. Is the film aesthetically pleasing?

9. Although containing dated information, does the film still have educational value?

When, as a result of this review, a decision was made to retain a film in the library, the annotation could be revised to highlight the historical value and the curricular relevance.

The original plan was to discard films containing prejudicial statements and biased points of view. Upon further consideration, it was recommended that a select number of these films be retained for use in developing students' critical viewing skills. For this project, the definition of critical viewing skills included the ability to interpret, appreciate, understand and evaluate non-print media. It was felt that, with proper guidance, these films would be useful learning aids in studies of prejudice and the film techniques used to communicate such messages. Students could also begin to learn to evaluate the authenticity of the "historical" film. Film study guides could be developed to help teachers use these materials effectively.

It was at this stage in the study that Gayle Blumel and her fourth graders entered the project. Five teachers representing elementary, middle and high school grades were invited to work with the committee. Their major role was to prepare teaching plans using the "historical" films and try out lesson plans developed by the committee.

As the work of the project progressed, it became evident that teachers would need more help with ways to maximize the learning potential of films whether "historical" or new. A video tape FILM ANALYSIS: TWO VIEWS showing two classroom teachers demonstrating ways to use "historical" films was produced as an answer to the inservice need. This video tape records how a fourth grade teacher and an eighth grade teacher used the same films to develop critical viewing skills.

Developing Critical Viewing Skills

The childrens' comments that opened this article were excerpted from the video record of the fourth grade demonstration. The purpose of the lesson was to sensitize students engaged in studies of Africa to the language used to describe the African people in selected "historical" films, and to help students become more aware of the role of narration in a film. The activity involved viewing and discussing the introductory sections (about three minutes each) of two films on Africa produced in 1961.

Prior to the film study experience, the fourth graders participated in several preliminary activities designed to increase their awareness of the negative effects of derogatory words and the positive effects of complimentary language on people's attitudes and feelings. The activities included:

1. Discussion of personal experiences in which the children had been made to feel happy or unhappy by the actions of others or by the words they used.

2. Construction of data charts comparing and contrasting -- "things that make me feel good" with "things that make me feel bad;" and "words that make me feel good" with "words that make me feel bad."

Additional discussion centered on things people might say about "our country" that would make "our people" feel good or feel proud and some of the "good things" the children had learned about Africa from their studies.

To set the scene for viewing the films, the teachers told their students that they would see just the introductory portions of two films on Africa. Their assignment was to note differences in the treatments of Africa and the African people in the two films paying special attention to the language used in the narration. Transcripts of the two film segments used in the activity are presented below:

Film I

"Gentle Winds of Change" - produced in 1961 by Segall

> "Less than a century ago, European explorers, in their quest for the source of the Nile, first penetrated into East Africa. Until then, the world outside had heard only scattered tales of Africa's scenic wonders, its fearsome wildlife, and its bizarre peoples.
>
> In the wake of the early explorers, a great wave of European missionaries and colonizers who brought the outside world to East Africa, began to report in detail on the 'Dark Continent.' An image of Africa resulted, an image that since has been nourished by overly-romantic reports, adventure films, and sensational novels.

> Africa -- an untamed continent, peopled by primitive savages. The childlike Pygmies epitomize this image -- dressed in scanty loin cloths fashioned from the bark of trees, employing poisoned arrows in their search for food, they seem jealously to guard their primitive ways.
>
> Wild, unrestrained dancing is the kind of African reality best known. So the world came to think of Africans as living in some remote, almost prehistoric era."
>
> (Note the view expressed in this section of the film was deliberately designed to express a stereotyped view of Africa and Africans in contrast to the remaining portion of the film that presents the people in a more objective light.)

Film II

"Nigeria - Giant in Africa" produced in 1961 by
National Film Board of Canada

> "In Northern Nigeria, representatives of many ancient peoples accompany their traditional leaders at a great durbar. Its pageantry recalls the strength and splendor of a treasured past.
>
> Nigeria -- boatmen from the Niger delta display the war canoes of the past and show the zest and energy which made their forefathers great warriors and traders.
>
> In Western Nigeria, a graceful dance by a proud and sophisticated people whose ancient art is admired all over the world.
>
> The Hausa, the Fulani, the Ibo, and the Yoruba, along with many other groups of peoples, large and small ... these are the 40 million Nigerians. And now they're binding themselves together in Africa's greatest experiment - the Federation of Nigeria. To the Federal House of Representatives in Lagos, they have sent their chosen leaders to create a united, independent and modern nation out of the ancient peoples of the Niger."

The discussion that followed proved very revealing. Though the teacher asked the students to "listen carefully and look for positive and negative things," the fourth graders, fascinated by the unusual visual scenes, paid little attention to the narration. In responding to the teacher's question about the differences between the two films, childrens' reports dealt with what they saw and how they "read" the visuals. Dancing people in skirts of leaves as shown in the "Gentle Winds of Change" were identified as "Indians." No one applied the word "pygmies," a term used in the narration, to the dancers. Some children concluded that the people were "poor" because they did not wear clothes and were thus, also "unhappy." The film "Nigeria, Giant in Africa" showed brief scenes of the streets and buildings of Lagos which the children described as "just like Pasadena."

Though the teacher tried to redirect the childrens' attention to the words used in the narration, it was not until they had an opportunity to hear the sound track again without the visuals that the children were able to deal with the differences between the ways in which the two narrators described the people. The words "primitive," "savage," "untamed," and "bizarre" used in the first film, they labeled negative. In discussing the narration, children reported:

> "I wouldn't want to be called untamed ..., I'm not wild like an animal."
>
> "It's pretty near calling you weird ... that means, like kind of odd. They have weird clothes ... it's kind of accusing them."

In the second film, they identified the words "admired," "graceful," "proud," and " great warriors" as positive terms.

Casey Johnson, the eighth grade teacher participating in the project, initiated the Africa study by administering a pre-test to determine the degree to which prevailing stereotypes about Africa and the African people were currently held by his students. To set the scene for viewing the two film clips, the class discussed the negative and positive terms they had heard used to describe people, races or cultures. As might be expected, the post-viewing discussion revealed that the eighth graders were quite able to attend both the visual and narrative content of the film and to recall the language used in the narration to describe the people. Although some youngsters felt that the city scenes indicated progress, one student felt that:

> "... they really should keep some of their traditions ... We're judging them all on how they used to be and not how they are. I still think they should be like they were a long time ago. There was nothing wrong with them then."

For the most part, the class agreed that the negative terms used were offensive and unfair. One student, however, felt the words used in the narration of "Gentle Winds of Change" presented an adequate description, for it described "... their way of life ... they way they act."

Conclusion

The pilot project not only indicated that the films could be used to develop critical viewing skills, but also could provide teachers with a variety of clues to needed future learnings. The experiences in the two classes served to emphasize again the importance of careful preparation for viewing a film and the need for follow-up discussion and supportive learning experiencs. During the discussions, teachers discovered that some students:

1. were unable to attend to the viewing purposes set by the teacher;
2. failed to hear and/or to comprehend the narration;
3. "read" their own experiences into the film's visual messages as they tried to interpret what they saw. Although both films were produced in 1961, some children felt the first film viewed was older; "it seemed like a lot of years ago because they didn't have any cement buildings";
4. tended to overgeneralize on the basis of the limited data presented in the films;
5. measured the progress or civilization of the people by the ways in which the scenes shown matched the world in which the students live;
6. needed help in learning how to report what they see in a film without applying judgments;
7. needed to be encouraged to question the explanation or conclusions presented in the narration;

The film discussion served as the first step in the identification of the additional learning experiences needed to accomplish the objectives of the study in process in both classes.

Capitalizing on the Value of "Historical" Films

An important consideration when using historical films is the need to help students continually keep in mind that the films they are viewing are, indeed, historical records. The film images moving across a background of deserts, forest lands, grassy plains, or in remote rural villages may appear to be records of contemporary times, for there are no pictures of familiar objects that the student can identify as "dated." Teachers need to plan ways to help students relate the time period represented in the film to their own chronological time gauges. Students can learn to value the old film as a record in the same manner one would appreciate an old book or newspaper -- a record that provides a unique source of information about a time that has gone by.

Observing classroom use of films, reviewing lesson plans, and discussing film utilization with teachers served to underscore the need for teacher training on film utilization. The project committee found that teachers need to:

1. be encouraged to consider a wider variety of instructional uses for films whether "historical" or contemporary;
2. learn how to delimit the viewing assignment given to students;
3. feel comfortable in selecting and using just that portion of a film that is pertinent to the study at hand. (Some teachers felt that they should not "tamper" with films since they were produced by experts);
4. know what to look for as they preview a film;
5. be urged to spend time finding out what their students "took in" as they viewed a film -- how they "read" the messages;
6. be more "literate" in relation to films and film production.

More attention to the development of the critical viewing skills _of teachers_ was recommended by the committee. Considerations when planning to use "historical" films include:

1. Select films appropriate for the age and experience of the students.
2. Preview the films.
3. Identify learning objectives to be achieved.
4. Prepare the students for viewing the films by:

   a. asking a question to focus viewing attention;

   b. providing experiences that help students step back in time to the period pictured in the film. Relate the time period represented in the film to historical events or periods with which the students are familiar.

5. After viewing the film:

   a. encourage students to respond to the question, "what did you see?" It is during this reporting time that teachers discover how students "read" or "misread" the visual messages in the film;

   b. view the film again to clarify, to answer questions, to settle differences;

   c. provide time and opportunity later to review other sources of information in order to determine the extent to which changes have taken place in political and economic development, customs, living conditions, and values;

6. Plan to show a more contemporary film dealing with the same subject to provide up-to-date information in film format for comparison.

The complexity and diversity of Africa, a continent of over fifty nations, is a problem the teacher must deal with in designing a study of this area. Students will need to sample this diversity in the course of their work in order to discover that complex urban regions and highly industrialized centers are as much a part of Africa today as the rural communities and desert oases more commonly identified with this continent.

Comparative studies help students relate the information they acquire from a variety of learning experiences. Comparative studies, using visual historical base, enable students to gain perspectives on:

1. the effects of change on everyday behavior of people;

2. the conditions and problems that arise when people leap from an agricultural life style into a technologically oriented world;

3. the shift in economic relationships between countries when key natural resources become available;

4. the effects on social structures as political shifts in power occur;

5. the changing relationships between people and their institutions as traditional customs and values are challenged.

Comprehension grows as students use their knowledge to generalize and apply these generalizations to the study of new data, and the "historical" films take on new meanings as teachers plan ways to help students relate these brief glimpses of the past to present conditions.

APPENDIX A

Film Resource Centers

African Studies Center
University of California at Los Angeles
Los Angeles, CA 90024
Dr. Don Consentino, Outreach Director

Stanford University
Stanford, CA 94305
Darrell Clay, Outreach Director

African Media Center
10 Center for International Programs
Michigan State University
East Lansing, MI 48824
Marylee Wiley, Outreach Director

APPENDIX B

Resources on Critical Viewing Skills

Earlier, in the seventies, there were a number of publications available on film viewing and film study. In recent years, attention has been directed to television viewing. Materials dealing with critical television skills can easily be used for film analysis for much of what appears on television is first produced as film. The information below describes the four critical viewing projects funded by the United States Office of Education:

Critical Television Viewing Skills, Grade 1-4

Southwest Educational Development Library
211 East Seventh Street
Austin, TX 78701

This organization has developed materials for use in teaching critical television viewing skills to primary children. Guides for parents and teachers; materials for children are available. Contact Dr. Charles R. Corder-Bolz for descriptive literature.

Critical Television Viewing, Grades 6-8

WNET/Thirteen
356 West 58th Street
New York, NY 10019

A teacher's guide and student Work-A-Text (see below) are available. Contact Debbie Wasserman at WNET for information.

Critical Television Viewing Skills

(Language Skills Work-A-Text)
New York Times Company
888 Seventh Avenue
New York, NY 10019

Critical Television Viewing Skills -- A course for High School

Far West Laboratory
1855 Folsom Street
San Francisco, CA 94103

This agency has developed a teacher's guide and a student textbook. Contact Debra Lieberman at Far West

Laboratory for information about Inside Television: A Guide to Critical Viewing.

Television Literacy -- A course for Post-secondary Students

Boston University
School of Public Communication
640 Commonwealth Avenue
Boston, MA 02215

Material available includes a teacher's guide, textbook, and workbook for students. Contact Victoria Jacobs at Boston University for information.

APPENDIX C

Be in Charge of the Film You Use

The producer who made the film you are about to use did not know your students, the community in which they live, or the particular study in which you plan to use the film. As a creative teacher, your job is to redesign the film to make it work for your students. After previewing the film, think about what you want the film to do, then plan to use it in such a way that your objective is accomplished. For example:

1. If you wnat to find out what students already know about a country and how they can use that knowledge to "read" the visual information in a film -- then use the film without the narration. Have students report what they saw. (Guide students to check the date. Rerun the film titles, if necessary, to help students locate date.) List the information on the board. Categorize the information. Discuss what was learned about life activities of the people, geographic features, changes taking place, etc. List the questions that develop as students report. Ask them to add any current information they have learned to substantiate or question the film information. See the film again with the narration. Discuss what additional information was gained and add it to the record on the board. How will you go about finding out what conditions are today in the country and how changes have affected the people? (Note: Make it a practice to help students remember to check the date on films, in books, etc. Help students learn to consider date of publication in evaluating information.)

2. If you want to see how much students have learned about a country, select a film to use at the end of the study. Show the film and ask students to critique the film. What did the producer of the film include that supports their study? What did the producer fail to put in the film? Why do you think the information was omitted? What new information needs to be added to the film? Or, on the basis of their study, have committees of students write a new narration for the film.

3. Show a number of films about a particular region of a country to add dimension to your study. Have students contrast and compare the kinds of information presented in the films to that provided in books or newspapers. Discuss the limitations and the strong points of film messages. Compare with TV news reports and newspaper reports of an event.

4. Have students view a film and listen for evidence of stereotyping. Record the words and phrases. Listen to the narration again and suggest ways to change it to eliminate the biased statements.

5. View a section of a film that deals with an activity. Have students write one or two word descriptions of what they saw. Pair students so that those with limited skills have someone to assist. List words on the board and use the occasion to examine how the words convey the action. Add new words. For example, students could write action words that describe movement of an animal or the activities involved in fishing, in planting a crop, preparing and eating a meal; or the movements in a dance. As another activity, have students identify all the acts of cooperation they see in the work activities of the people. Show just the section of the film that deals with the activity focus of the lesson.

6. Show a film about a geographic area of Africa -- or a section from a general overview film. Follow up with other films that provide more detailed information about the countries, the people in the region, the changes. Have students record specifically the information that indicates changes in the use of the land, transportation, facilities, growth of cities. One way to do this is to divide the class into small groups. Assign one topic to each group. Show the film a second time and have students look for and record information in support of their assignment.

APPENDIX D

Film Analysis -- Comparing the Visual and Narrative Messages in Two Films

7742 - "GENTLE WINDS OF CHANGE" (color, 33 min., Segall, 1961)

Portrays the effects of Westernization on the behavior of the Bayankole people in Uganda, East Africa. Provides a brief glimpse of some of the changes in the lives of the herdsmen and farmers. Examines ways in which the Western church, hospital, school and city life affect the people's traditional activities. A Bayankole wedding following European customs shows one example of change. Raises the question, "to what degree are these visible changes internalized by the people?"

71388 - "NIGERIA - GIANT IN AFRICA, Part I" (black and white, 28 min., NGBC, 1961)

Provides historical background to aid in understanding the complexity of cultures, religion, and race that make up Nigeria today. Tells how this nation united to form a new nation under the first Federal Prime Minister, Abubakar Balewa. Appreciation of the traditions of Nigerian culture, dances, art is expressed throughout. Positive feeling about the people who reside in Nigeria is generated. Includes scenes of the peoples of Hausa, Fulani, Yoruba, and Ibo.

NOTE TO THE TEACHER: Both these films were produced over twenty years ago. In the opening section of "Gentle Winds of Change," the producer communicates the classic, traditional, stereotyped view of Africa and African people. For example "pygmy," a deprecating term employed in the narration, was the word used by early European explorers and settlers to describe and identify the Mbuti people.

A contrasting point of view is presented in the opening section of "Nigeria - Giant in Africa." Using just the opening sections of these films, teachers can illustrate the meaning of stereotyping and show how words and visuals can be used to influence viewers' attitudes and opinions. These films provide a unique opportunity for developing critical viewing skills.

Teacher Preparation:

Preview the opening sections from the two films to identify:

1. Stereotypical views of the African people.
2. The language used to describe the people.
3. Standards used by the filmmaker to mark the progress of the African people.
4. Evidence of overgeneralizing.
5. Misinformation that needs to be discussed or researched.

Review critical viewing skills.

Identify learning objectives to be achieved.

Schedule student viewing of the two films in a period that allows sufficient time for pre- and post-viewing discussions.

Teaching Suggestions:

I. "Gentle Winds of Change"

   A. Show only the first two or three minutes of the film, shutting the projector off after the scene of the pygmies dancing.

   B. Use an open questions such as, "what did you see?", to initiate discussion.

   C. List the main points students report on the board.

   D. Summarize information reported by asking, "what aspects of Africa were highlighted in the opening section of this film? What impression of Africa did the film producer communicate?"

   E. Ask students to recall how the narrator described the people and the country. (See copy of narration included on pages 86-87.)

   F. Reshow the opening section of the film to refresh students' memories and to call students' attention to the production date.

   G. Record words used in the narration on the board and discuss the attitudes and feelings about

Africa and African people that the words communicated. Discuss the meaning of stereotype and identify the words used in the narration that tend to perpetuate a stereotyped view of Africa and African people.

II. "Nigeria - Giant in Africa, Part I"

A. Show only the first two or three minutes of the film, shutting off the projector after the scene showing the new leaders arriving for the meeting of the Federal House of Representatives in Lagos.

B. Use an open question such as, "what did you see?" to initiate discussion.

C. Repeat the steps followed in analyzing "Gentle Winds of Change." (See copy of narration included on page 87.)

III. Compare the Film Treatment of Africa and the African People in the Opening Sections of the Two Films.

A. Narration - (words used to describe the film)

1. What information did the narrators present in the films?

2. What adjectives did the narrators use to describe the African people?

3. Did either of the films present a patronizing attitude toward the African culture?

4. Did the films describe the White people as superior to the Blacks?

5. Were the words carefully chosen to show respect for the African people?

On the basis of this analysis, which of the two films presents a biased point of view about Africa and the African people?

B. Visuals - (choice of scenes used in film)

1. What aspects of Africa and African life did the films show?

2. Were political scenes shown which would give one confidence in the intelligence and the ability of the African leaders to govern?

3. Was a wide variety of African life shown in order to give as true a picture as possible of the life style of the countries?

4. In what activities were the African people engaged?

5. In what activities were the White people engaged?

6. What aspects of African culture -- art, music, dance -- were shown?

7. How were evidences of the culture of the people presented?

On the basis of this analysis, would viewers judge one film more respectful toward the African people than the other? Why?

IV. Summary

Discuss the meaning and influence of stereotyping and propaganda. How can these elements be demonstrated in the two film sections?

In "Gentle Winds of Change," an attitude toward African people was depicted. How has this attitude changed today? What needs to be done to help more people respect and appreciate the African people?

APPENDIX E

A Film Study Guide For Developing Critical Viewing Skills

Today many young people are inundated by a veritable flood of information from magazines, newspapers, motion pictures, and the daily viewing of anywhere from four to seven hours of television. If students are to be able to sort out, judge, and organize this information to obtain answers to solve problems, they will need help in developing the skills needed to examine and critically analyze the many messages embedded in the various forms of media.

This film study activity centers on the video cassette record of a film project conducted by an eighth grade and fourth grade teacher:

70068 "Film Analysis: Two Views"
color video cassette 3/4" Umatic
26 minutes

Two teachers using the introductory sections of two historical (out-of-date) films on Africa help students learn to closely examine and analyze the many messages embedded in films. Critical thinking skills are developed and sharpened as the students contrast and compare two films.

Producer: Africa Film Study Project
Office of the Los Angeles County
Superintendent of Schools, 1980
(Available to districts having a film contract with the County Schools Film Library free of charge.)

For further information concerning the video cassette, please contact:

Patsy Seeley
Los Angeles County Schools
9300 East Imperial Highway
Downey, California 90240

The two classes viewed and discussed the visual messages in the opening sections of:

7742	"Gentle Winds of Change"
71388	"Nigeria - Giant in Africa, Part I"

As you view the video tape, watch and listen to the children to discover:

1. What attracts the attention of the students? Why?

2. What are the students really seeing -- how are they "reading" the visuals? (What does this mean to you as a teacher?)

3. What criteria do they use to evaluate the items, people, and activities they see? (As a teacher, how would you make use of this information?)

4. What attitudes or feelings do they express about the people in the films? (What leads would you pick up for later study and discussion?)

5. What do the students report when asked to review the content of the film?

6. What effects did the narration have on the information obtained by the students from the film?

7. What questions do they raise after viewing a film?

8. What learning activities would you provide to follow up this experience? Why?

Think about the two films:

1. What messages did the visuals present?

2. What messages did the narration deliver?

3. Which messages had the greatest influence on the children? (What does this mean to you as a teacher?)

Consider the implications of this experience evaluating, selecting, and planning to use films and television for instruction.

Follow-Up

Select and review a film for classroom use.

Set the stage (prepare) children for viewing the film.

Limit initial discussion to the responses to the question, "what did you see?"

Briefly record the comments of the students on the board.

Review comments to discover which visual and narration messages had the greatest impact.

How did the students interpret what they saw?

What did they fail to see?

In which instances did their comments go beyond the data presented in the film?

Implications for next steps.

APPENDIX F

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NON-WESTERN MATHEMATICS IN WESTERN SCHOOLS

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The idea that mathematics in the United States would need to be "integrated" into multicultural education or anthropology indicates the vacuum in which it has existed as a separate entity from the humanities and social sciences. In most countries outside the United States this dichotomy between the sciences, social or otherwise, and the humanities has not been a major problem. Morris Kline, the mathematical historian wrote that:

> Mathematics is not merely a series of dry technical exercises. It .... has determined the direction and content of much philosophic thought, has destroyed and rebuilt religious doctrines, has fashioned painting, musical, architectural, literary styles and produced logic (Kline viii).

The irony is especially noteworthy when anyone that has spent a small amount of time studying the history of mathematics knows its multicultural origins. From the years 500 to 1400 there were no prominent mathematicians in Christian Europe. Mathematical contributions made during that time were made by Hindus (the term Hindu is used in this paper to distinguish Hindus from American Indians) and Arabs. The Hindus added the Babylonian idea of place value to base ten and changed the Babylonian separation symbol into what we know as a zero. The Hindus were original in creating the concept of negative numbers, also. For every number, such as 9, they introduced a new number (-9) and called the older numbers positive to distinguish them from the newer negative ones. Actually they created negative numbers to show financial indebtedness.

These Hindu contributions, transmitted to the Europeans by Arabs, did not become part of European mathematics until late in the seventeenth century. Medieval European universities offered only arithmetic and geometry. Their arithmetic was composed of simple calculations and superstitions, and their geometry was the first three books of Euclid. These Euclidean books were the only requirements for the master's degree. A small amount of mathematics was required in the other two university subjects offered -- music and astronomy. A university trained mathematician of a thousand years ago knew less than an elementary school child of today.

One use of mathematics in medieval times was to make astrological predictions. Professors of astrology were called mathematicii. Despite the Roman ban on the use of mathematics, the subject gained an influence because medieval physicians believed they could heal by consulting the stars. They believed this because Arabic translations by Aristotle said that each planet influenced a certain part of the body. These early doctors studied mathematics so much that the words physician and algebraist were synonymous. Bologna, Italy had a school of Mathematics and Medicine in the twelfth century. Galileo lectured to medical students on astronomy so they could apply his teachings to medicine.

If early European mathematics was locked into astrology and superstition, as serious a pursuit as it might have been, it had to be freed from this intellectual "strait jacket." The rise of the fifteenth century European merchant class and their subsequent foreign explorations for profits provided such an environment of intellectual freedom. Contact with Arab traders and Chinese culture produced two major contributions to the modernization of medieval European mathematics. Arab scholars gave meticulous translations of the philosophical logic of the Greeks and the mathematics of the Hindus. The Chinese use of gun powder transmitted to Europe by the Polo family created the need to pursue mathematics in order to determine how bullets and cannon balls could be fired effectively from great distances. In short, Greek logic, free of other wordly theology, was the breeding ground for present mathematical laws; and weapons of war were the 'carrot and stick' incentive to produce a new body of the mathematics of motion culminating in Einstein's theory on energy and the speed of light.

In brief here is a summary of the contributions of peoples of non-European cultures to mathematics as we know it today vis-a-vis our base ten numerations system.

> About five thousand years ago, written numbers began to appear in Egypt and Babylonia. The number system used by the Egyptians was a stroke for each number for 1 to 9; for 10 they used this symbol ∩; for 100, ℮ (see Appendix F).

The Romans, three thousand years later, used the same strokes for numbers 1 to 4, but used V for 5, X for 10, L for 50, and C for 100. By adding a stroke (I) to "V", they could write a symbol for the value of 6. A "V" and two strokes represented the value 7.

The Mayas of Central American used a dot, a stroke and an oval in their number system. Using dots and strokes, they could write numbers from one to nineteen. For example, a dot represented number one, four dots represented number four. A stroke represented five. A stroke with a dot over it (∸) represented number six. Two strokes (=) represented the value of ten.

Our "Arabic" number system is actually more closely related to the Hindu Brahmi and Givalion numerals than that of the Arabs. As previously mentioned, the Hindus of India developed the concept of place value or using the position of a numeral to show value (units, tens, etc.). They also introduced the use of zero as a place holder.

The following activities will encourage learners to explore the cultural origins of our base ten number system as well as give them creative drill in basic computation (+, x, ÷, -), place value, and the law of association:

1. Numeration (counting)

   For refining reading and research skills, appreciating cultures of others, and reinforcing knowledge of place value, arrange the class in groups to complete the following chart:

Civilizations	Time	Counting System
Sumerians	5000 years ago	cuneiform - base 60
Babylonians		
Egyptians		
Greeks		
Romans		
Hindus		
Mayas		
Arabs		

2. Famous Mathematicians/Scientists

For experience in writing biographies and compiling technical data, have student groups choose a name from the following list and answer four questions about them.

Varahamihira
Banneker
Euclid
Erastosthenes
Aryabhata
Descartes
Leibnitz
Galileo
Pythagoras
Pascal
Einstein

a. Who was this person?

b. When did he live? Where?

c. What did he do for a living?

d. What was his contribution to mathematics or science?

3. Yoruba Numeration

Today counting is considered the easiest form of computation; but among the Yoruba of Nigeria it is complex and involves two basic operations (X, -) and use of the law of association (the operation in the parentheses has to be done first). It makes use of the base 20 system instead of base 10. Students can be introduced to all these ideas and highly motivated students can be asked to count as far as they can in the Yoruba system:

$45 = (20 \times 3) - 10 - 5$
$106 = (20 \times 6) - 10 - 4$
$300 = 20 \times (20 - 5)$
$525 = (200 \times 3) - (20 \times 4) + 5$

The Yoruba use addition, subtraction and multiplication to express one number. For example, forty-five is "twenty times three minus ten minus five." Computations are done mentally and records are kept by marks on walls or beans/sticks in a jar. Yoruba children use this system as easily as we write IX (ten minus one) for nine with Roman numerals. Yoruba children reinforced their skills by playing the game called Ayo (Mancala, Wari) and by helping their mothers buy and sell at market. Since there is emphasis on multiplication and subtraction, basic drill becomes exciting for students. Once these skills are learned students can do them mentally without paper and pencil.

4. Luo Finger Counting

Finger counting, frowned upon in this country beyond the first grade, is still in widespread use by adults around the world. It overcomes language barriers, teaches young children one-to-one correspondence, and turns human fingers into non-electronic calculators. The Luo people of Kenya have a quinary finger counting system. This means they use five fingers to count: T, 1, 2, 3 and 4 are used to represent the fore-finger, middle finger, ring finger and little finger. The thumb or T is folded inside to make a fist to represent five:

1	extend	1
2	extend	1 and 2
3	extend	1, 2, and 3
4	extend	four fingers, with 1 and 2 separated from 3 and 4
5	closed	right fist
6	closed	left fist
7	closed	left fist, 1 and 2
8	closed	left fist, 1, 2, and 3
9	closed	left fist, 1, 2, 3, and 4
10	two closed fists	
11-19	two closed fists, followed by the appropriate gesture for the digit.	

After nineteen, counting sticks or number words are used. One to nine is based on five and primary digits. Ten and higher are multiples of ten. After nineteen number words go as high as one million.

5. Chisanbop (Korean Finger Counting)

Chisanbop, a Korean finger calculation system, is in base ten. This makes it easier to transfer and reinforce concepts of place value while making use of one-to-one correspondence. It can be used to teach addition of columns and two or more digits with regrouping. It is excellent for students who can not count beyond ten. Chisanbop is an inexpensive way to teach computation in elementary and Algebraic mathematics, since no calculators with expensive batteries are needed. Using T, 1, 2, 3, and 4, and the words PRESS and CLEAR, it works as follows (see Appendix B):

1 - 4	press	1 - 4
5	clear	1 - 4, press T
6 - 9	press	T, 1 - 4
10	clear	T, 1 - 4; press 10 in left hand
20	press	2 tens in left hand

40	press	4 tens in left hand
50	press	T in left hand

Try the Chisanbop method to add the following problems:

1	1	1	2
6	3	5	2
1	1	1	3
1	4	1	1

6. Algorithms

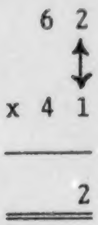
The word algorithm comes from the name of mathematician Mohammed ibn-Musa al-Khwarizmi. When his book on mathematics appeared in Europe (825 A.D.) in a Latin translation, it was called liber algorismi or the book of al-Khwarizmi. Today it means any method used to perform one of the four basic operations of multiplication, division, addition and subtraction.

a. Hindu Criss-cross Multiplication

Hindu mathematical operations were found in the sutras which are books of instruction written in Sanskrit over 1,000 years before Christianity. Since these writings were done with reed pen on clay tablets, they had to invent ways to save space. That's why Hindu multiplication uses mental arithmetic to avoid writing down as many steps as we write in traditional multiplication. Mental arithmetic is the only device used in Mexican division. Hindu multiplication and Mexican division are useful for not only basic drill, but are good exercises for improving memory for mental arithmetic.

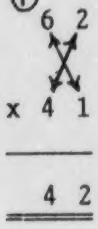
Here is the Hindu criss-cross method to multiply:

(I)



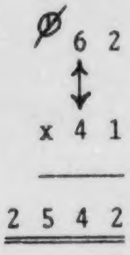
(2 x 1 = 2)
(write 2)

(II)



(4 x 2 = 8)
(6 x 1 = 6)
(8 + 6 = 14)
(write 4 and carry 1)

(III)



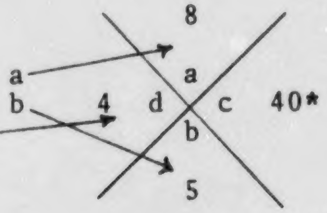
(6 x 4 = 24)
(24 + 1 = 25)
(write 25)

Another Hindu contribution was the idea of "casting out nines." It saves time in checking for accuracy of an answer. Casting out nines means to cross out any numbers that add up to 9:

$\cancel{5} + \cancel{3} + \cancel{6} + \cancel{4} + 3 = 3$

Using the same problem of 62 x 41 we can check it by casting our nines method:

62 = 6 + 2 = 8
41 = 4 + 1 = 5
25$\overline{42}$ = 2 + $\cancel{5}$ + $\cancel{4}$ + 2 = 4



* (40 = 4 + 0 = 4)

Multiply a x b = c, if c = d, then the product 2542 is correct. Casting out nines is useful for practicing basic addition and is an easy way to check column addition of large numbers. When you add the digits across and end with a two digit number, be sure to add the two digits as though they are two separate numbers.

$$\begin{array}{rcccccccccl}
574 & = & \cancel{5} & + & 7 & + & \cancel{4} & = & 7 & & \\
485 & = & \cancel{4} & + & 8 & + & \cancel{5} & = & 8 & & \\
854 & = & 8 & + & \cancel{5} & + & \cancel{4} & = & 8 & & \\
359 & = & 3 & + & 5 & + & \cancel{9} & = & 8 & & \\
397 & = & 3 & + & \cancel{9} & + & 7 & = & 1 & & \\
\underline{641} & = & 6 & + & 4 & + & 1 & = & \underline{2} & & \\
3310 & = & 3 & + & 3 & + & 1 & = & 7 & \leftrightarrow & 34 = 7
\end{array}$$

(∴ 3310 is correct)

b. Mexican Division

Mexicans divide similar to the way that it is done in the United States, but their method is faster and good for developing students' mental arithmetic skills. It saves time and paper. Once a student masters it, there's no need for pencil and paper. It could be very useful on jobs that require quick calculations, and intermediate grade students would not have to spend hours on cumbersome long division problems:

$$\begin{array}{r|ccccccc}
 & 4 & 6 & 5 & 1 & 1 & 4 & 0 \\
\hline
7 & 32 & {}^{4}5 & {}^{3}5 & 7 & 9 & {}^{2}8 & 6 \; \text{(remainder)}
\end{array}$$

c. Italian Addition

An expanded notation form of addition was taught to Italian children about 542 years ago. This ancient algorithm was introduced as "new math" in late 1960's to California. The not so new Italian addition is a good vehicle for teaching about place value, expanded notation, and basic addition drill.

$$\begin{array}{r}
8139 \\
2478 \\
5667 \\
\underline{4774} \\
28 \\
23 \\
18 \\
\underline{19} \\
21058
\end{array}$$

Expanded Notation

$28 + 230 + 1800 + 19000$

d. Scottish Subtraction

The "Scottish" form of regrouping (borrowing) is still taught in Europe and the eastern United States. It comes in handy for students who do not know subtraction facts beyond ten.

$$\begin{array}{cccc} 5 & \overset{10}{7} & \overset{10}{5} & \overset{10}{4} \\ \overset{3}{\cancel{2}} & \overset{9}{\cancel{8}} & \overset{7}{\cancel{6}} & 9 \\ \hline 2 & 8 & 8 & 5 \\ \hline\hline \end{array}$$

Each time a 10 is borrowed from the preceding number it is "paid back" to the second row of numbers. The second row of numbers are subtracted from each ten and the difference is added to the top row. However, the last digits on the left are subtracted in the usual manner.

7. Statement Problems

Statement problems are like riddles and can be solved by using logic and analyzing language. These techniques can be taught by a method I call "charting." Charting teaches students deductive reasoning and sequential organizing.

The Kpelle children of Liberia do an exercise in logical reasoning with their own cast of characters. A man has a leopard, a goat and a pile of cassava leaves to be transported across a river. The boat can carry no more than one at a time, besides the man himself. The goat cannot be left alone with the leopard and the goat cannot be left alone with the leaves. How can the man take them across the river? How many trips does the man have to make? Use a chart to illustrate the solution to this statement problem. More advanced students can be asked to solve this using an algebraic formula (see Appendix C).

There are a number of statement problems that can be solved by charting. There are two "textbooks" which use this method for elementary through twelfth grade students. They are: Mind Benders, Midwest Publications Co., Pacific Grove, CA and Basic Algebra, John Wiley and Sons, Santa Barbara, CA.

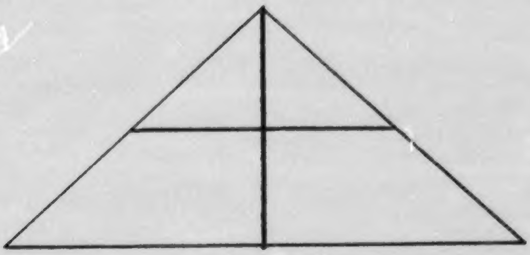
Of course, vocabulary and paragraph and sentence construction can be taught while solving statement problems. The ambiguous English language in statement problems has to be clarified by the teacher before any progress can be made. The Basic Algebra book has a section on analysis of mathematical terminology. It's college level but can be simplified by the teacher (see Appendix E).

8. Recreational Mathematics

There is a deep-seated belief in the educational community that learning through games is a 1960s fad that has no place today in the "back to basics" movement. However, almost any game can be used for drill in basic computation as well as the teaching of:

a. logic
b. language
c. history
d. anthropology

Take the game of Tatu (Tsoro Yematatu is a game from Zimbabwe, Rhodesia) played on a triangular array:



Each of two players has three markers each on six of the intersections, leaving one blank. The first player to arrange three of the markers in a row is the winner.

Tatu is simple enough for a kindergartner if played as a tic-tac-toe game; but if numbers are added to the markers it can be used to teach addition to a first or second grader. It helps students ability to concentrate simultaneously on winning and blocking.

For third through eighth graders some related activities may be to:

a. construct an equilateral triangle;

b. study the history of the pyramid in African, Egyptian and Grecian civilizations;

c. design another algorithm and geometric shape for this game;

d. turn it into computer software;

e. create a religion based on the symbol of Tatu;

f. build a small scale model house based on the Tatu design.

With one mathematical game students can explore as many ideas as their imaginations hold.

For paper/pencil exercises and wooden game boards of these and other multicultural mathematical activities, write to:

Dr. Velesta Jenkins
Educational Research Institute
P.O. Box 11726
Palo Alto, CA 94306

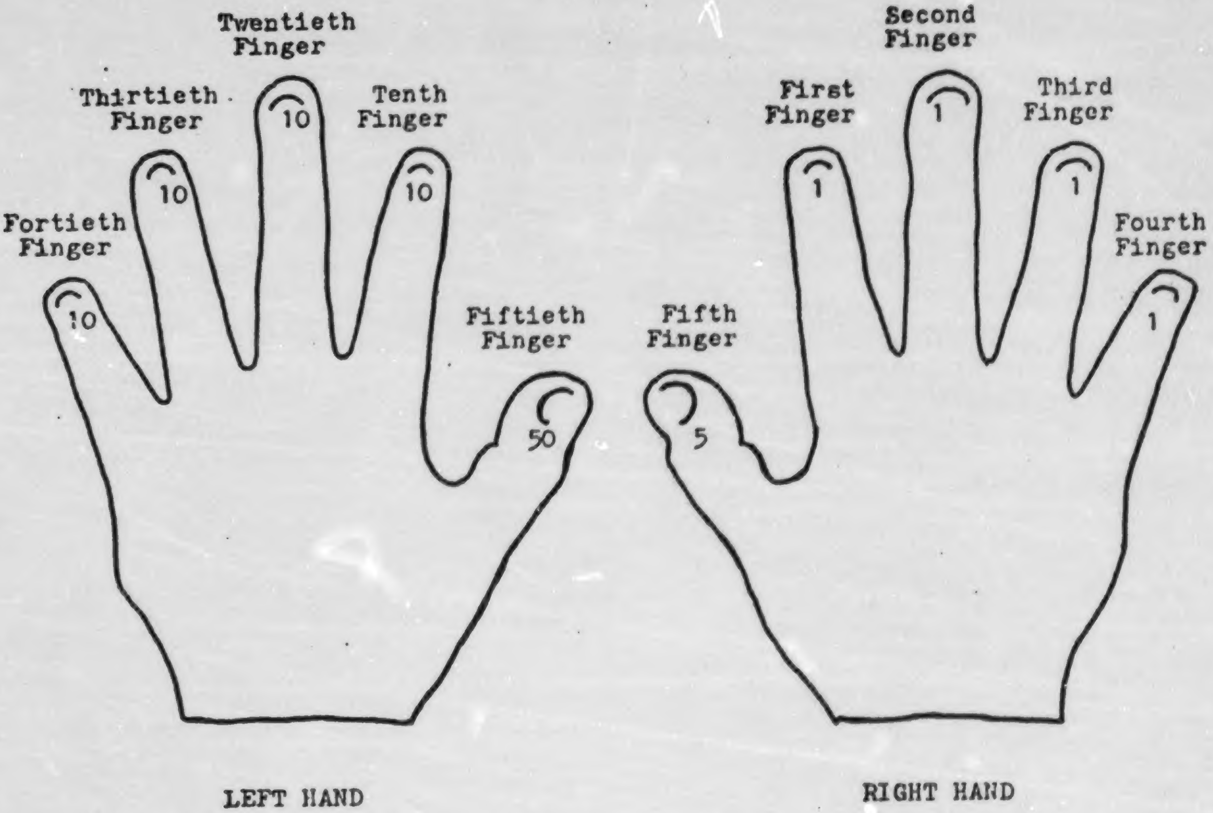
APPENDIX A

Yoruba Counting

	twenty	ten	unit
35	2	0	-5
36	2	0	-4
37	2	0	-3
38	2	0	-2
39	2	0	-1
40	2	0	0
41	2	0	1
42	2	0	2
43	2	0	3
44	2	0	4
45	3	-1	-5
46	3	-1	-4
47	3	-1	-3
48	3	-1	-2
49	3	-1	-1
50	3	-1	0
51	3	-1	1
52	3	-1	2
53	3	-1	3
54	3	-1	4

APPENDIX B

Naming the Fingers

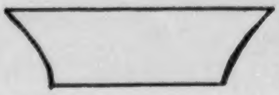
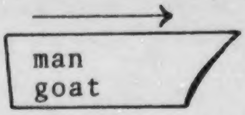
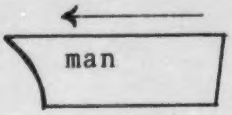
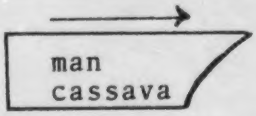
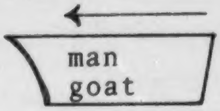
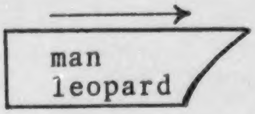
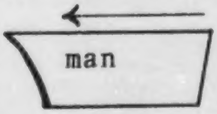
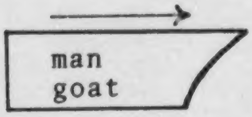

Twentieth Finger
Thirtieth Finger
Tenth Finger
Fortieth Finger
Fiftieth Finger
10
10
10
10
50
Second Finger
First Finger
Third Finger
Fourth Finger
Fifth Finger
1
1
1
1
5
LEFT HAND
RIGHT HAND

CHISANBOP
Numerial Value of Each Finger
(A total capacity of 99)

140

APPENDIX C

Kpelle Riddle

1.	man goat leopard cassava		
2.	leopard cassava	 → man goat	
3.	leopard cassava	 ← man	goat
4.	leopard	 → man cassava	goat
5.	leopard	 ← man goat	cassava
6.	goat	 → man leopard	cassava
7.	goat	 ← man	leopard cassava
8.		 → man goat	leopard cassava
9.			man goat leopard cassava

APPENDIX D

Translating English to Algebra

The mathematics you use every day in your work or at play usually appear wrapped in words and hidden in sentences. Neat little sets of directions seldom are attached; no "Divide and reduce to lowest terms" or "multiply and simplify your answer." The difficulty with real problems, or "word problems," is that they must be translated from words to mathematical symbols. You need to learn to talk algebra and think algebra, not simply juggle numbers and letters.

Algebra is most useful as a tool for applying mathematical logic to real situations and solving real problems. However, in order to use algebra for practical problem solving, you must be able to translate simple English sentences and phrases into mathematical equations or expressions. Fortunately, certain words and phrases appear again and again in word problems. They are signals alerting you to the mathematical operations to be used. Here is a list of such signal words:

SIGNAL WORDS		
English Term	Math Translation	Example
Equals Is, is equal to, was, are, were The same as ... What is left is ... The result is ... Gives, makes Leaving, leaves	=	a = b
Plus Sum of Increased by More than	+	a + b
Minus b, subtract b Less b Decreased by b Take away b Reduced by b Diminished by b b less than a b subtracted from a	-	a - b
Times, multiply, of Multiplied by Product of	x	a x b or ab
Divide Divided by b Quotient of	÷	a ÷ b or a/b
Twice, twice as much Double	x2	2a
Is less than	<	a < b
Is more than	>	a > b

APPENDIX E

Translating English to Algebra

A. Translate each of the following phrases to a mathematical operation symbol:

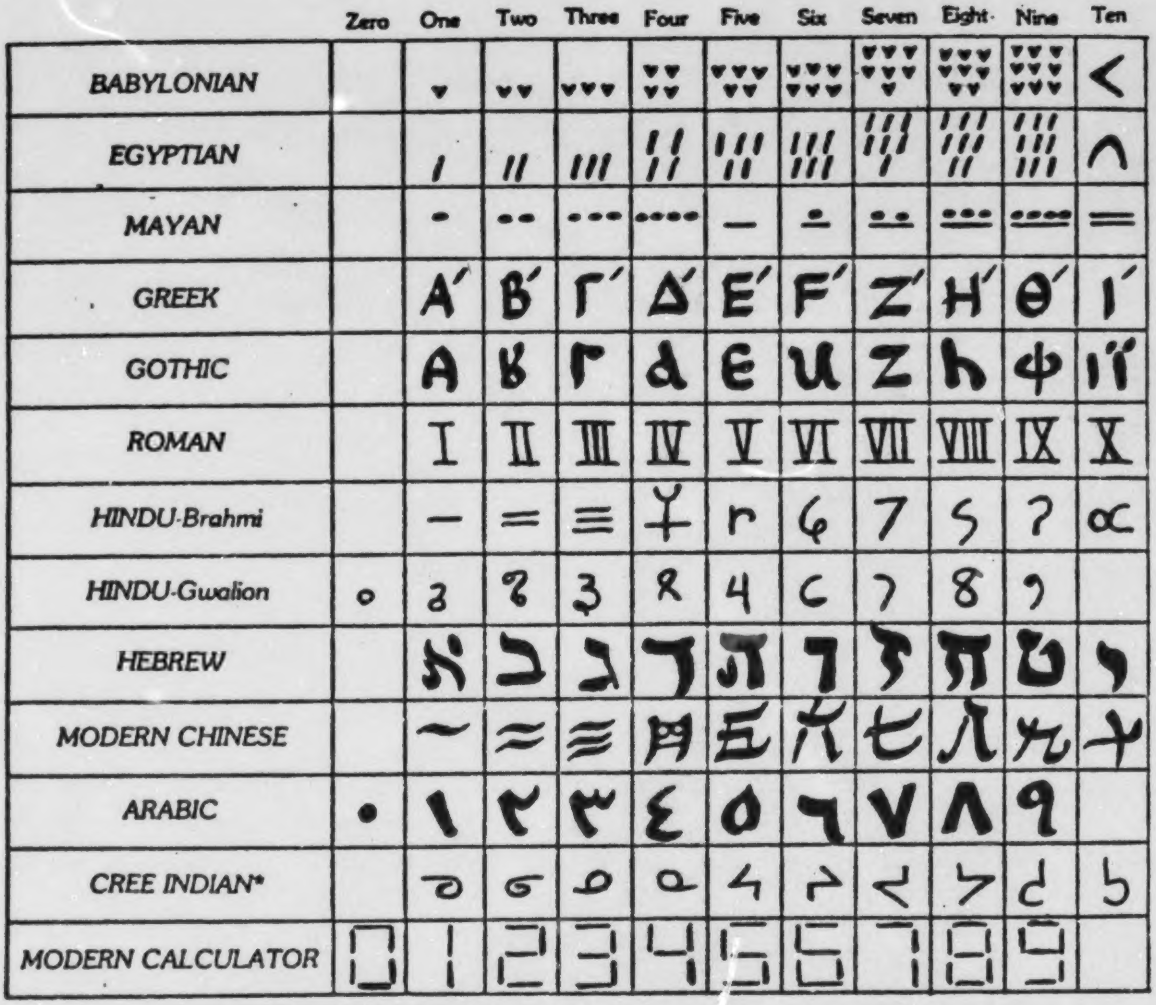
1. _____ Add to
2. _____ Increased by
3. _____ Four less
4. _____ The cube of x
5. _____ Multiplied by
6. _____ Times
7. _____ Two less than a
8. _____ As many as
9. _____ The sum of
10. _____ Three pounds extra
11. _____ Is
12. _____ Diminished by
13. _____ Divided by
14. _____ Of
15. _____ Two-thirds of
16. _____ Is less than
17. _____ Twice
18. _____ Equals
19. _____ Is greater than
20. _____ Five inches more
21. _____ Four more than
22. _____ a subtracted from b
23. _____ The square of a
24. _____ Reduced by
25. _____ The same as
26. _____ Were
27. _____ Quotient of
28. _____ Equals
29. _____ Reduced by 5
30. _____ Are

B. Translate each of the following phrases to an algebraic expression:

1. _______ a divided by b
2. _______ The sum of x and y
3. _______ p increased by 4
4. _______ 4 times t
5. _______ y divided by 4
6. _______ d less e
7. _______ The product of r and m
8. _______ K plus 10
9. _______ z reduced by 5
10. _______ B multiplied by 9
11. _______ The differences of h and g
12. _______ Two less than M
13. _______ Five more than u
14. _______ The sum of x and half of y
15. _______ The quotient of 3a and 5b
16. _______ Twice y divided by two
17. _______ Triple a number
18. _______ 8 less g

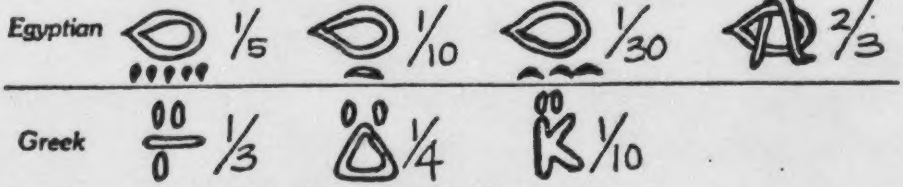
APPENDIX F

Symbols and Numerals -- Old and New

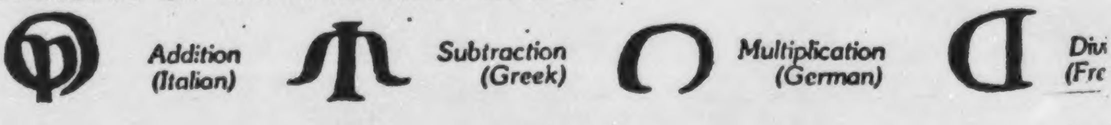

Zero
One
Two
Three
Four
Five
Six
Seven
Eight
Nine
Ten
BABYLONIAN
EGYPTIAN
MAYAN
GREEK
GOTHIC
ROMAN
HINDU-Brahmi
HINDU-Gwalion
HEBREW
MODERN CHINESE
ARABIC
CREE INDIAN*
MODERN CALCULATOR

*This is the symbol system created for the Cree Indians by Rev. James Evans, in 1841.

ANCIENT FRACTIONS


Egyptian
1/5
1/10
1/30
2/3
Greek
1/3
1/4
1/10

ANCIENT OPERATION SYMBOLS


Addition (Italian)
Subtraction (Greek)
Multiplication (German)
Divi
(Fre

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BaFa BaFa:

TEACHING MULTICULTURAL CONCEPTS THROUGH EXPERIENTIAL METHODS

Kikanza Nuri Webber
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Most public school teachers and curriculum specialists have accepted the fact that multicultural education is not a passing pedagogical fad, but a mainstay in many well developed curricular programs. Teaching from a multicultural perspective is still a difficult task for many because multicultural education is a multidisciplinary approach rather than a distinct discipline with well defined theoretical and practical parameters. There are no multicultural textbooks with accompanying teacher's guides and student workbooks. Instead, there is a confusing array of materials -- books, charts, posters, kits, picture sets, films and filmstrips -- which, according to the promotional literature, all claim to teach multicultural education.

We are pleased to note that most of the teachers we have worked with understand that multicultural education is not something to be taught. What is taught are multicultural concepts. Students must be exposed to concepts and be provided with experiences that will foster good human relations in a school setting and, more importantly, that will help to prepare them for work and service in a society which becomes more multiracial, multilingual and multicultural each year. America has not yet reached the ideal state of a pluralistic society wherein racial, ethnic and cultural groups are not only acknowledged, but share decision-making power and a mutual respect and appreciation for one another. As a result, concepts such as ethnocentrism, cultural pluralism, and cultural relativity, which traditionally have been taught in anthropology and sociology courses, are now being presented to elementary and secondary school students.

To teach these concepts adequately, we have sought to exploit both traditional and experiential modes of teaching.

Teaching from an experiential mode often assists the students in making the leap from an academic understanding of concepts to the practical understanding of them. One experiential tool which sensitizes participants to some of the problems caused by cultural differences and consequent misunderstandings is a simulation called BaFa BaFa. We have found this tool to be useful not only with students but with in-service teachers as well. The juvenile version of this simulation, RaFa RaFa, has been used with elementary school students to teach the same concepts and to instill the same sensitivity. The purpose of this article is to describe the usefulness of cross-cultural simulations for sensitizing people to the added dimensions of communication and understanding requisite in a multicultural setting.

The Simulation: BaFa BaFa and RaFa RaFa

The objectives of BaFa BaFa are to replicate cross-cultural experiences such as culture shock, the emotional attachment to one's own values to the exclusion of out-groups and the development of stereotypes. The objectives and outcomes of RaFa RaFa are the same, but it is designed to be played by elementary school-age children. Both simulations provide for learning one's own culture and mastering communication within that culture (socialization). They then force one to enter a new and totally different culture and to experience the inability to communicate, along with feelings of anger and withdrawal (culture shock). The debriefing session after the simulation allows people to express their satisfaction with and commitment to their own culture and abhorrence of the foreign culture (ethnocentrism). It allows one to understand the logic of the other (foreign) culture vis-a-vis one's feelings about it when it is explained by the participants of the other culture (cultural relativity).

In BaFa BaFa the participants are divided into two groups: Alpha culture and Beta culture. Each group is given a set of rules for interacting and, in the process, is socialized into the proper way to interact with people based on the values of that particular culture. The people of Alpha culture are very friendly and relaxed and value personal contact and intimacy within a patriarchal structure. Males are revered and the elder male "headman" has a special status. The people of Beta culture, on the other hand, are aggressive, hard working, and money oriented. Betas measure a person's value by how well she or he performs in the marketplace. There is no value placed on communication as a socially rewarding mode in and of itself. The Betas use only a special language with which they communicate their bargaining and exchanges.

The major differences between BaFa BaFa and RaFa RaFa are in the languages used and the social transactions in which members of the two cultures engage. In RaFa RaFa, the Beta language consists of animal sounds which represent the animals (cards) which are being traded in the marketplace, while the Alphas are largely nonverbal in their communication. Their one word, "RaFa RaFa," is a signal that good luck has been acquired by successfully guessing three times the hand in which the "bone" was not held. As in the adult version, Betas are competitive and achieve status through success at the marketplace. The juvenile Alphas have a high regard for warmth and personal contact. However, rather than living in a sexist hierarchy as the adult Alphas do, the juvenile Alphas are all of equal status except for the male and female elders who possess the greatest amount of luck (for which there is a strong value) and command the greatest respect and deference.

During the simulation, observers from each group are sent into the other culture to try to participate and to attempt to discover and describe the rules of that culture. One important rule which both cultures share is that no one may tell their cultural rules to a stranger. As the sets of observers return from each visit to the foreign culture, they briefly describe what they saw and state what they believe to be the rules by which to interact in that society. Stereotypes and hypotheses about behavior begin to develop. When all participants have had a chance to experience the other culture, the simulation ends and debriefing begins.

The debriefing is one of the most important parts of the simulation process. It is during this time that integration of experience and concepts occurs. Alphas and Betas present to each other their reactions and analyses based on their brief participant-observation excursions to the other culture. At this point, participants have become emotionally attached to their culture's way of doing things because they understand the rules of interaction. They are less benign in judging the culture they do not understand.

Alphas describe Beta people as "very greedy and aggressive." "They just take, take what they want." "They're animals, very competitive." Betas, the competitive culture, describe the Alphas in the following manner: "They are very unfriendly. They seem to have leaders in the group. They threw me out although they were friendly to each other. They are very close-knit. They are hostile -- they kick you out." They also describe the feelings they had when they went into the foreign culture as a visitor. One student's reaction was typical of most: "I wanted to get back really quick. I wanted to get back to my own group. The people were strange. They were always taking. They totally ignored me. It was very strange because the things we value I couldn't get in that culture. It was frustrating not being able to interact."

For most participants, BaFa BaFa and RaFa RaFa are enjoyable learning experiences. Some, however, find the alienation, rejection and subsequent confusion very hard to tolerate. Others, who find themselves in a culture (Alpha or Beta) that conflicts strongly with their own personal values, are unable to assume the role of an Alpha or Beta. During the simulation, these people may stay on the periphery of the group's activities. In any role-playing exercise, one or two marginal or non-participants may be expected. They, however, are different from those who attempt to participate but experience severe role strain as a result. The negative experiences of the latter participants also reflect important learning that has transpired. A skillful debriefing session elicits these negative remarks from the group members. The point of emphasis is that in a multicultural setting individuals whose participation appears to be superficial, non-committed or reluctant may be experiencing similar role strain.

Children who participated in RaFa RaFa seemed to grasp quickly the major concepts which the exercise is designed to convey. During a debriefing session, their comments invariably included the following: "People should observe before they judge somebody." "People learn about different types of people by experiencing them." "You have to explain things that you want others to understand." The students' comments and discussions, during the school year, were a testimony to the effectiveness of the simulation as a referent for the concepts of ethnocentrism and as an aid in sensitizing participants to another group's norms and behaviors.

The Theory: Experiential vs. Information Assimilation Teaching

It is important to place the use of BaFa BaFa in the context of theories of instruction. We are discussing the use of a particular type of teaching technique, a simulation, but it behooves us first to talk about both experiential and the more traditional information assimilation teaching situations. One can conceptualize theories of instruction as ranging on a continuum between these two poles which are, admittedly, ideal types (Coleman 1976).

The information assimilation model is one with which we are all familiar. Information is conveyed through a lecture or book to students who passively accept it and memorize it in classroom situations. The information usually concerns a general principle, using specific examples as illustrations. The application of this knowledge to other situations may occur through classroom discussions or assigned papers but, in general, application is the weakest link in information assimilation teaching. Another characteristic of this type of teaching is that motivation for the student to learn depends on extrinsic factors rather than drawing on the natural curiosity to learn (Coleman 1976).

In experiential teaching, the first step is learning to carry out an action rather than to assimilate information. The learning mode is active, not passive. For example, the student is engaged in a field trip in the community, attempts to contact a city councilperson, or engages in firsthand exploration of a neighborhood in an effort to get to know it, rather than listening to a teacher explain the principles of neighborhood organization in the urban environment.

The student, then, is immediately engaged in activities to reach a certain goal, e.g., getting a waiver of a zoning ordinance in order to develop a recreation park. The teaching activity is the process of involving the students. The learning activity is the process of the students understanding their actions and the effects of their actions. The motivation usually comes from within the student -- it is intrinsic -- because in order to reach the goal the student has to invest himself or herself in resolving the problem. This is perhaps the strongest link in the process of experiential teaching. Since the action occurs at the beginning of the teaching process, the student is motivated to understand the results of that action and to understand the general principle involved. In information assimilation, this action usually takes place outside of the classroom or after the course is completed.

The type of learning experience fostered by the two teaching methods is qualitatively different. In the information assimilation model, information is transmitted through a symbolic medium, usually print or speech. This information is secondary, already prestructured and interpreted by the teacher or writer. In experiential teaching the experience is primary; that is, the students themselves experience the information as raw, unstructured information. The problem, of course, becomes the structuring, the sifting out of general principles from raw experience. This is time-consuming for the instructor and for the student. The integration may never happen without some guidance from the instructor through either a theoretical framework or discussion.

Figure 1 gives examples of various types of classroom activities which range from one extreme of the continuum to the other. In fact most teaching occurs somewhere between these poles as a combination of efforts.

Figure 1

CONTINUUM OF TEACHING MODES

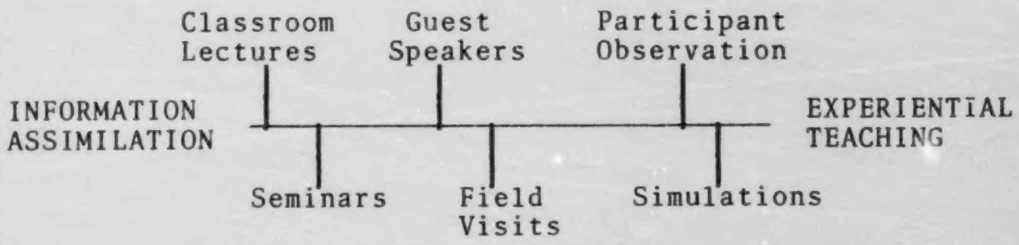
Classroom Lectures
Guest Speakers
Participant Observation
INFORMATION ASSIMILATION
EXPERIENTIAL TEACHING
Seminars
Field Visits
Simulations

Table 1 summarizes some of the main differences between information assimilation and experiential teaching.

Table 1

DIFFERENCES BETWEEN INFORMATION ASSIMILATION AND EXPERIENTIAL TEACHING MODES

	Information Assimilation	Experiential
Motivation to Learn	Extrinsic	Intrinsic
Type of Experience	Secondary	Primary
Expense	Cheap, efficient	Time consuming
Application of general principles to real world	May not occur	Occurs throughout process
Teaching of general principles	Given in classroom	May need assistance in distilling general concepts from experiences
Participation of learner	Passive	Active

Simulations as a type of classroom activity falling near the experiential pole of the continuum, involve the student in the primary activity of replicating real life situations. That is, a student will not actually experience the role of a city council member or the role of a mayor but, within the confines of the simulation, the experience of the role will be primary, raw and direct. Simulations provide the players with a set of rules which replicate real-life experiences and which involve them in roles designed to illustrate real feelings, decisions, choices and motivations. The rules provide a structure for interacting with clearly defined goals and roles. These in some way represent a distillation of the larger system.

Simulations involve the student in activities with little prior interpretation of those experiences in the larger theoretical framework. In other words, the students' experience is unstructured and unfiltered by previous interpretations given by the instructor. The player must act, understand the results of that action, and integrate that understanding into decisions for future actions, i.e., the player must apply the general understanding to new situations. Ideally, the process of teaching and learning during a simulation is that described for experiential teaching.

Simulations are a valuable tool in experiential teaching for several reasons. First, the experience they provide has emotional impact. There is a personal investment in learning the goals and playing successfully by the rules. Personal involvement means highly motivated, attentive and curious students. An important difference, however, between simulations and real life is that the simulation is a preselected and pre-organized experience which focuses the attention of the students on particular concepts or issues.

Additionally, conducting simulations provides experiential referents for academic concepts (Bredemeier 1978; Sundeen and Cooper 1978). Concepts discussed in the classroom, such as ethnocentrism, cultural relativity, and cultural pluralism often remain academic when presented in the information assimilation mode. The students may or may not make the conceptual leap from the general concepts discussed in class to the real world activities which occur in every day behavior. As cross-cultural simulations, BaFa BaFa and RaFa RaFa create the setting for making that conceptual leap and serve as referents for such concepts.

The Setting: A Need to Teach Multicultural Concepts

We have used BaFa BaFa and RaFa RaFa in several settings. One was with undergraduate university students taking an eight-unit course on metropolitan communities -- a course which explores the sociological, political, educational and cultural aspects of communities using traditional and experiential teaching techniques. The course was a requirement for majors in the Schools of Public Administration and Social Work, and the students were juniors and seniors in these fields. Graduates of these schools work in the helping professions or in public service, often with members of communities or ethnic groups who have backgrounds different from their own. Assumptions about cultural values, norms and behavior are important to assess when entering a new community. One of the goals of pre-professional training is to prepare the students for their jobs by sensitizing them to the pluralistic nature of American society.

In this teaching situation, we conducted the simulation within the first three weeks of the semester because BaFa BaFa has a latent function of helping the students become comfortable with each other and with the instructors. The specialized rules and language and the unusual situations of the game help people to get to know each other better. The total involvement requires that people abandon their normal student roles and place themselves in new circumstances.

Another setting in which we used BaFa BaFa and RaFa RaFa was with participants of a Desegregation Training Institute held during the first year of a large school district's participation in court-ordered desegregation. In such newly desegregated school districts, several needs are apparent. For the most part, the teachers and staff at the receiving schools have become accustomed to the needs, problems and participation of white, middle-class children and their parents. The new students represent different communities and a different set of needs (Blake and Lahr 1979). For many students, the desegregated school is the first multiracial setting in which they have participated. Their attitudes toward one another and toward their teachers often reflect the non-accepting, ethnocentric or prejudicial attitudes of the adults who socialized them. Consequently, there may be problems among the students that mirror the multiracial misunderstandings within the schools.

In this particular district, many of the Black and Chicano students were from lower middle-class and working-class homes. Their parents were less educated than those of the white students, and more of their parents were working during school hours. Therefore, they less often were able to volunteer in the classrooms, to meet with teachers during the day for conferences, or to respond immediately to school administrators who called about discipline problems. Moreover, the Black and Chicano parents often had attitudes toward schooling and school personnel which precluded their participation in school activities with the same degree of assertiveness and apparent cooperation as white parents (Castaneda, James, and Robbins 1974). Compounding this situation even further were the attitudes of some teachers toward the Black and Chicano students and the communities they represented. Among these attitudes non-acceptance, ethnocentrism, and prejudice were identified. Such attitudes limited the involvement of the teachers in the communities of the new students (Johnson, Scales, and Smith 1974).

A third setting in which we have used BaFa BaFa and RaFa RaFa is among teachers and students in schools seeking to improve their multicultural programs or seeking creative solutions to their human relations problems. For example, one K-12 alternative school needed to sensitize both the new and veteran students to the problems of adjusting to a school which had a value base and concomitant standards that differed greatly from other public schools. BaFa BaFa reminded the veterans that they had to help socialize the new students. It emphasized the need for empathetic understanding. It clarified for the new students the tendency to make incorrect judgments based upon incomplete or misinterpreted information. It helped to open a line of communication between the two groups, and it provided the impetus for developing a new orientation program.

Any school, classroom, or profession which has as its goal the improvement of human relations, the development of positive student interaction or increased cultural sensitivity would be an appropriate setting for a cross-cultural simulation. The choice between BaFa BaFa or RaFa RaFa would be based upon the maturity of the participants. We recommend that BaFa BaFa be used for a faculty workshop first, and then used with secondary school students. After the faculty experiences BaFa BaFa, RaFa RaFa can be used effectively with fourth, fifth and sixth graders. Mature third graders would also benefit from the experience. Creative teachers can read and then simplify the instructions, e.g., reducing the number of social rules each culture must learn, so that third graders and mature second graders can participate. Prior participation in the simulation by the teacher facilitates the process of conducting it, but both versions can be run effectively by anyone who has read the excellent manuals provided in the kit.

For logistical reasons, we recommend that two classes be involved in the simulation. This automatically provides the requisite two rooms and two adult leaders for conducting the simulation. Make certain, however, that there are an equal number of Alphas and Betas from each class. This will eliminate classroom chauvinism which might pollute the effects of the simulation. Having both cultures represented in each classroom will also aid the ensuing debriefing discussions and later conceptual references to the simulation. Finally, to adapt to the time restrictions of a school's daily schedule, we suggest that teachers introduce the term culture and its ramifications and prepare the students for the physical movement necessary to conduct the simulations (e.g., decide who will be in which culture, which culture will be in what room) on one day and conduct the simulation on another. One and one-half hours is the shortest time period during which an effective simulation and debriefing can be conducted.

Results: Evaluation by Participants

Bredemeier (1978) and others have discussed the immediate results and effectiveness of the cross-cultural simulation. In this section we emphasize benefits and effects over a longer period of time. BaFa BaFa and RaFa RaFa expose the roots of ethnocentrism and illustrate how easy it is (1) to misunderstand the motivations of other people in another culture, (2) to attribute ill-feelings to another group, and (3) to experience an inability to communicate and to understand the proper rules of interaction.

Do students carry the experiences of the simulation with them beyond the classroom? Are teachers able to apply the concepts and experiences in their classroom work? Are they able to tap the experience of RaFa RaFa to use as a referent when teaching about culture or in resolving classroom conflict? Do the links between the experience and the concepts provide a working base for interaction with people? In any evaluation of learning, it is especially difficult to assess long-term results.

We asked the university students to rate their experience with BaFa BaFa compared with the other classroom activities during the semester in order to assess whether or not the experience had salience when compared with the other activities. In addition, we asked whether or not the experience had been "useful" to them throughout the semester. Did they use the concepts? Were they reminded of the experience? Did they use the simulation experience as a framework in which to interpret their experiences in the community?

The majority clearly felt the simulation was useful, having used the experience "very often" or "several times" during the semester. The student comments revolved around the importance of being aware of cultural diversity, of not rushing into stereotypes, and of understanding people's backgrounds in order to work with them. As one student phrased it, BaFa BaFa shows "what it is like when you have to deal with people from other cultures. It is important to listen and wait until you understand about strangers before passing judgment."

We asked the teachers how useful the simulation was for them, and how often during a semester they used the insights or concepts in their working situations. Their responses indicated that the concepts and insights were useful in three different areas -- inside the classroom with students themselves, outside in interactions with parents, and in personal insights into cultural differences. The majority of the teachers said that they had been able to use the insights in classroom situations, particularly in explaining the concept of cultural relativism to students. As one teacher commented,

> "I have discussed it with students in my Spanish class in trying to help them understand that the culture of one group is not more or less logical, better or worse, etc., but rather just different and that cultures are not to be evaluated but rather to be understood."

Many mentioned the "sensitizing" function of the simulation. "I didn't consciously use the concepts relating them directly to BaFa BaFa, but I know I used them during discussions of different cultures in social studies, just from having experienced what we did during the game." In addition, teachers expressed an interest in using the simulation for their own classrooms to help in "breaking down some of the children's isolation." They felt that it helped students themselves to appreciate different cultural values. "Students became more sensitive to the feelings of other students and reduced their tendency to ridicule each other particularly in regard to those students who are different in appearance, actions, and attitudes."

No formal evaluation was made of the elementary school students who participated in the RaFa RaFa experience or of the teachers who observed the simulations. Immediately after the debriefing sessions and in subsequent follow-up interviews the educators who observed RaFa RaFa agreed that it is a good human relations aid in multiracial school settings. Not only does it personalize for each student the concepts of ethnocentrism, cultural pluralism, and cultural relativity, it serves as a referent for the teacher. When situations of cultural or racial misunderstanding or intolerance arise, teachers refer to the RaFa RaFa experience to review and reinforce the applicable concept. Teachers have reported that children also do this among themselves in efforts to police the behavior of their peers. In a more formal academic setting, teachers conducted units on culture or on a particular cultural group (e.g., Japanese) and referred to the RaFa RaFa experience to illustrate the concepts being presented.

Adults who observed the RaFa RaFa simulation were always impressed by the total involvement of the students. This experience enables less bright students to participate with all other students equally and to grasp concepts which might be difficult to understand if presented in a more traditional mode. It provides a vehicle for orally sharing learning which has taken place. RaFa RaFa also helps teachers to understand how children perceive themselves and others in a multicultural setting.

Conclusion: BaFa BaFa as a Multicultural Training Tool

BaFa BaFa serves several purposes. It heightens the cultural sensitivity of teachers as they work with students and parents from different racial and cultural groups. It increases the awareness of students to the problems their cohorts experience when among students from a different culture or among students speaking a different native language. For educators, the BaFa BaFa experience can aid in the interaction with parents or other community members by helping them understand, for example, why parents of racial minorities may not respond to the school environment as white, middle-class parents do. It exposes teachers, educators, and students to the folly of judgments based upon ethnocentric or culturally biased perceptions and helps them perceive subtle cultural differences and the misunderstandings which may arise because of them.

BaFa BaFa and RaFa RaFa demonstrate concepts as they affect human relations in a setting which can be very real to participants. It clearly and graphically illustrates in two hours what might take many hours of reading and lectures to teach. BaFa BaFa and RaFa RaFa serve as experiences which illustrate important sociological and anthropological concepts, and also become referents in circumstances requiring multicultural understanding and sensitivity.

There is a critical need to educate public school students regarding the plurality of cultures in our society, the dangers of ethnocentrism, and the processes of intercultural contact. Cultural changes in both urban and suburban communities make it imperative that young people learn to deal effectively with the multiethnic and multiracial nature of our society. Our involvement with experiential teaching modes indicates that simulating cross-cultural processes enhances the learning of multicultural concepts. The immediate benefit is clear to the students and the instructors. Moreover, teachers and students report that they continue to use the concepts months after the simulation and are able to apply them to situations requiring interaction with other racial, cultural or linguistic groups. Additionally, the experience itself is used as a referent for problem solving in a cross-cultural setting.

These findings are similar to those reported by Woods and Thompson (1980:376) in their discussion of training for staff development. They suggest that adult learners learn best with "direct and concrete experiences where the learner applies what is being learned" and that this is essential for behavior change. We maintain that simulations and other experiential teaching techniques offer applicable insights and working tools not only to professionals in public service, but to students as well.

APPENDIX

BaFa BaFa was developed by Garry Shirts for the Department of the Navy some years ago after American sailors experienced many difficulties when on leave in foreign countries. RaFa RaFa was produced in response to requests for a similar experiential tool for children. Both can be purchased from Simile II, 218 Twelfth Street, Del Mar, California. The phone number is (714) 755-0272. Simile II produces several other simulations to teach social and political concepts. Bredemeier (1978) describes many of them as well as simulations by other distributors. We have found BaFa BaFa and RaFa RaFa to be unparalleled in their sophistication, scope and effectiveness for teaching multicultural concepts experientially.

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THE MULTICULTURALISM PROJECT: METHODS FOR INCORPORATING ANTHROPOLOGY INTO PRE-COLLEGE CLASSROOM ACTIVITIES

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Two problems are commonly faced by both classroom teachers and university social scientists who seek to promote a scientific approach to the study and teaching of multiculturalism at the pre-college level. One is the a-scientific basis of much of pre-college social studies, and the second is the back-to-basics movement which views any activity not strictly geared to the teaching of "reading, 'riting, and 'rithmatic" as frivolous and dispensible. In response to these problems the staff of the 1980-81 Multiculturalism Project at Pan American University attempted to adapt and incorporate into their project two distinct but compatible educational strategies: the "inquiry approach" -- advocated by many and used by some as a method of teaching science; and the "basal technique" used at the elementary level to teach reading. In the following pages the development and implementation of the 1980-81 Multiculturalism Project will be discussed with special attention given to the usefulness of these two educational strategies -- as practical and effective methods of teaching topics related to multiculturalism and as coherent rationales for such potentially vulnerable "enrichment" activities. Several examples of lesson plans developed by staff and participants are provided for use as models by classroom teachers and by social scientists collaborating with teachers.

Multiculturalism Project Design

Faculty of the Department of Behavioral Science at Pan American University developed the Multiculturalism Project as a result of their interest in the National Science Foundation's Pre-College Teacher Development in Science

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Program. The NSF Program was designed to assist colleges and universities in providing opportunities for pre-college teachers to improve their knowledge in diverse areas of mathematics and the natural and social sciences and in fostering the development and maintenance of ties between scientists and pre-college teachers.

Pan American University is located in the Rio Grande Valley in the southern tip of Texas, near Mexico. The population of the area is severely depressed economically (Standard Metropolitan Statistical Area figures indicate the most severely depressed in the nation), and 54% of the population may be classified as poor. The population is also characterized by relatively low levels of formal education; the median years of school completed by person 25 years and older is 7.2 (Texas Department of Community Affairs 1978). Over 80% of the total population of the area is Spanish surnamed. From this population come not only the majority of pre-college and college students, but also the majority of pre-college teachers. It was believed that a cooperative project with pre-college teachers and college social scientists would provide educational enrichment to those traditionally underserved by universities and would also strengthen both pre-college and college programs by developing an understanding and appreciation of multiculturalism.

In September 1979 a planning committee was formed which consisted of a representative sample of area pre-college teachers, Pan American University faculty, high school administrators, members of Boards of Education, and college students who were recent graduates of the area high schools. An assessment of needs was initiated by the mailing of a questionnaire to a stratified-random sample of 32 area schools. The questionnaire was to be completed by teachers who had anthropology, psychology, and sociology content in their courses as well as the teachers of these disciplines. The respondents were asked to identify on a list of fifty-one specific topics within the disciplines of anthropology, psychology and sociology their relative need and priority. They were also asked to identify a general topic which would enrich their current and proposed courses and programs. The general topic was an open-ended question while the responses to the specific topic lists were measured by a Likert-type scale with a range of "0" representing "no need" to "4" indicating "very strong need."

With one telephone follow-up call responses were received from 85 educators representing a 53% response rate. The results showed that the general topic area of "multiculturalism" was of highest priority. Table I indicates the rank order of topics by the percentage of responses which cited a strong (3) or very strong (4) need for the topic. Fifteen of the topics were felt to be strongly needed by over 70% of the respondents, while five of the topics were seen as strongly needed by over 80% of the respondents. In retrospect it is notable that fewer respondents saw a strong need in the areas of research methods (53%) and philosophy of science (32%), two areas which the project staff ultimately came to see as very much needed.

On the basis of the need assessment, a project was designed with three major objectives: (1) to use the social science disciplines of anthropology, psychology, and sociology in an inter-disciplinary study of the topic of "multiculturalism;" (2) to provide and develop appropriate materials which can be used in classroom programs; and (3) to develop and continue a system of communication and cooperation between social scientists at Pan American University and the teacher-participants. The format of the project was a series of twelve minicourses on the central theme of "multiculturalism" with specific content including criminal justice systems, Mexican American culture, folklore, culture and personality, ethnic relations, sex roles, and learning. The minicourses were to actively involve the teacher-participants in investigations utilizing current research findings, techniques, and instrumentations. In addition, modules with learning objectives and resource materials were to be developed into lesson plans through the cooperative efforts of the teacher-participants and staff.

The project proposal was granted funding by NSF, and twenty-five elementary and secondary teachers were recruited. The staff of the project was comprised of three Pan American University social scientists and two veteran pre-college teachers. Additional Pan American faculty participated in the program in minicourses reflecting their areas of expertise. Armed with assessed needs, the designed minicourses, staff, teacher-participants, and NSF support, all that remained was the implementation.

TABLE I

Rank Order Groupings of Need Assessment Responses -- Strong (S) and Very Strong Need (VSN)

	Topic Area	S/VSN
1.	Criminal Justice System	94%
2.	Mexican American Cultures	89%
	Folklore of the Valley	89%
3.	Crime/Juvenile Delinquency	88%
4.	Culture and Personality	82%
5.	Mayan/Aztec Civilization	78%
	Minority-Majority Relations	78%
6.	Social Problems	76%
	Drug use and Addiction	76%
	Aging, Death and Dying	76%
	Culture/Social Change	76%
	Modern Personality Theory	76%
7.	Cultural Values	71%
	Social Control	71%
8.	Violence	70%
9.	Folklore: What and Why	69%
	Child Development	69%
	Learning and Motivation	69%
	Social Organization	69%
	Social Institutions	69%
	Social Deviance	69%
10.	Personality Development	67%
	Collective Behavior	67%
11.	Family/Dating	65%
	Mate Selection	65%
12.	Prejudice/Discrimination	64%
13.	Kinship and Marriage	63%
	Social Learning Theory	63%
	Adolescent Development	63%
14.	Moral Development	62%
	Demography - Population	62%
15.	Socialization Processes	60%
	Human Sexuality	60%
16.	Folk Religion	59%
17.	Sex Roles	57%
18.	Primate Learning	56%
	Language Development	56%
19.	Research Methods	53%
	Evolution of Culture	53%
	The Folktale	53%
	Culture & Food	53%
	Urbanization	53%
20.	Aggression	44%
	Cognitive Development	44%
21.	Human Evolution	41%
	Abnormal Behavior	41%
22.	Operant Learning	40%
23.	Careers in Anthropology, Pyschology and Sociology	38%
24.	Philosophy of Science	32%
25.	Biofeedback	30%
26.	Primate Behavior	12%

Problems in Using and Teaching a Scientific Approach to Mulitculturalism

Initially, staff members assumed teacher-participants would be well grounded in knowledge and practice of method, both pedagogical and scientific, and the minicourses were designed to focus solely on content. Thus, the project design did not include philosophy and method of science, designing of lesson plans, or teaching methods. Beginning with the first minicourse, problems with this approach became apparent. The minicourse evaluations indicated that teacher-participants felt that their job activities were enriched and 93% felt that they better understood the multicultural environment in which they work. Yet, "when, if, and as" the lesson plans were received, it was found that most of them fell far below expectations in terms of utilization of the scientific process and the teaching of the scientific process in conjunction with the minicourse content.

From discussions with the teacher-participants two major problems were identified. The first problem encountered was serious enough to threaten the basis of the project and the goals of the funding agency. There was a lack of commitment among many of the teacher-participants to pre-college social studies as a science or as a vehicle for teaching scientific inquiry. Many of the teacher-participants tended to view social studies as a teaching of discrete facts utilizing the "read the text, lecture, test" method to produce "good" citizens and transmit cultural values. Not only did a number of them believe that this is the state of social studies, but they were convinced that this is the way it should be. Those teachers who did believe in social studies as a science had limited experience with scientific inquiry. One teacher-participant recalled, and many concurred, that in her education and science courses she learned the process through the lecture method. In addition it was believed that the scientific process was too laborious and time-consuming to have any practical use in the classroom.

The second problem was the back-to-basics movement, which was interpreted as meaning the teaching of reading, writing, and arithmetic to the exclusion of most other teaching. The participants were receiving pressure on the national, state, and local levels to produce readers, writers, and mathematicians through competency level testing and other real and rumored educational legislation. As a result, teachers felt the need to focus on the three R's, and would only include other "luxury" areas such as problem solving and discovery as supplementary, marginal activities.

It was found that the conditions encountered were not unique. Similar NSF programs (Higgins 1981) had met with the a-scientific, if not anti-scientific orientation, of many teachers and the professional dichotomy between university social scientists and pre-college educators. Recent findings of the National Science Foundation concerning social studies curriculum were that it was "primarily about history, and to some extent, about current social problems and about understanding oneself. It is rarely about social science, the systematic inquiry into social phenomena" (Stake and Easley 1978:19). Also, the heavy utilization of the expository method, in which students are passive receivers or receptacles of knowledge, is common at all levels. Poskocil (1977:284) captures this model in the old joke about how a college instructor can tell the freshmen from the seniors in the classes: when he says "Good morning," the freshmen reply, "Good Morning," but the seniors take the remark down in their notes.

The Department of Education and National Science Foundation report to the President (1980) identified national problems in science education similar to the ones experienced in the multiculturalism project. The report of the NSF Conference on Cooperative Relations Between College Scientists and Pre-College Educators (National Science Foundation 1981), of which the three co-authors of this paper were participants, sought to develop an "action agenda" to address the severe crisis in science education identified in the President's Report. Of the three top-ranked priorities, two were concerned with the local problems previously identified: improving teaching methodology in the schools and "special efforts to focus upon learning theories in science education which will encourage more sensitive and useful approaches to working with students."

Inquiry and Basal Techniques for Teaching About Multiculturalism

Through cooperative brainstorming the staff sought solutions to the problems identified in the initial mini-course of the Multiculturalism Project. One staff member, experienced in inquiry as a teaching method and a learning process promoted this approach as a step toward the solution of the first problem -- the absence of a scientific orientation in much of the teaching of social science. We learned that inquiry teaching is a highly organized strategy which closely corresponds to the scientific research method of posing hypotheses, collecting and analyzing data, and drawing conclusions. Another staff member, experienced in teaching elementary reading techniques, demonstrated the compatibility of the traditional basal technique with inquiry processes. There was ample justification, therefore, for the adoption of an approach which could be used to teach reading and scientific processes as well as multiculturalism.

A review of the literature on the inquiry process indicated that there is no general concensus as to the definition of "inquiry." It is sometimes called an approach, sometimes a strategy, and sometimes a method. Common terms such as problem-solving, analytical thinking, discovery, questioning, creative thinking, developing concepts, and rational thinking are often used in conjunction with the inquiry process (Beyer 1971:6, 16; Schwab and Brandwein 1966:109; Kohout 1977:41; Romey 1966:65; Michaelis 1980:274). The lack of precise definition has its positive side, however, for the hallmark of the approach is its flexibility and its encouragement for a responsiveness to student input. Romey (1968), who provides an excellent resource for theory, practice, and activities utilizing inquiry as a teaching method in general sciences, pleads for the "discovery orientation" in terms that characterize this approach:

> If we indoctrinate the young person in an elaborate set of fixed beliefs, we are insuring his early obsolescence. The alternative is to develop skills, attitudes, habits of mind, and the kinds of knowledge and understanding that will be the instruments of continuous challenge and growth on the part of the young person ... All too often we are giving young people cut flowers when we should be teaching them to grow their own plants. We are stuffing their heads with the products of early innovation rather than teaching them how to innovate. We think of minds as a storehouse to be filled rather than as an instrument to be used.

Most of the project staff also had much to learn about the basal technique. We discovered that it is a process which has long been used by elementary teachers to teach reading (see Duffy and Sherman 1977 and Merlin and Rogers 1981) which is gaining advocates among secondary teachers. Its steps are as follows:

1. Motivation/vocabulary

2. Guided reading questions

3. Reading by students

4. Discussion

5. Guided reading and discussion for as long as practical or necessary.
6. Silent reading
7. Discussion
8. Follow-up activities
9. Evaluation

The basal technique is based on the assumption that the aims of reading instruction are not limited to word-naming, literal comprehension, or even inferential comprehension, but also include the ability to draw conclusions and recognize appropriate generalizations. Achievement tests in reading and competency test reports, which show to what extent students utilize reading skills, include measures of the latter as well as the former skills. Wilson (1972) points out that "... the student cannot apply ideas to problem-solving situations. Reading can and should be taught in its entirety and, when possible, as a part of the inquiry process."

Based on the study of both inquiry and basal techniques, a model was developed and introduced to the teacher-participants and its use in the classroom was encouraged. (See Apppendix A.)

Definition of the subject matter and motivation is the first step for both the inquiry-oriented instructor and the teacher using the basal technique; in both cases the purpose is to arouse a questioning attitude. The purpose is to generate an awareness, relevancy, and motivation for the concept to be studied. The resources utilized may be class discussion, films, lectures, and/or reading. It makes good pedagogical sense to try to interest students where we find them and build upon whatever foundation they have acquired through experiences in the social world (Kohout 1977:46). For example, for the lesson Devil in Folklore (see Appendix B), the teacher introduces the subject through class discussion, while for the activity of Mayan math the teacher introduces the topic by asking students to try to develop a new number system (Appendix C).

The second step is the development of questions and/or hypotheses for the purpose of defining the goal(s) and providing a guide for the learning process. The questions and/or hypotheses are deducted from step one by students and teachers. Initially students' questions usually arise from a naive common-sense world and are often unanswerable with the resources available. The teacher's role becomes one of interpreter or guide to lead students to formulate questions that are answerable.

The third step, that of gathering the data, involves the students in getting answers to the questions. The resources are many: 1) printed media such as texts, articles, newspapers, or references; 2) non-printed media such as films, audio and video tapes, movies, slides; 3) art such as paintings, murals, architecture, music; and 4) oral materials such as ballads, legends, stories, magic, and folklore. The techniques which can be used include lectures, content analysis, field trips, interviews, role playing, simulation games, or research projects. Which resource techniques will be used may be determined by the teacher, the students, or by the simple availability of resources. In this step the student learns the tools of inquiry -- both sources of information and how to use them -- and that in the process of inquiry there is an accumulated body of knowledge that must be mastered. The multiple activities involved in this stage of the process may provide many opportunities for motivated, meaningful reading as students seek information to answer questions they themselves have posed.

The next step is organizing and interpreting the data. Techniques include using or developing diagrams, graphs, tables, maps, slides, sketches, drawings, or displays. For Mayan math the teacher provided a worksheet through which the students developed a matching table, while for the Devil in Folklore, teacher and students together developed the categories to be compared.

The fifth step is the drawing of conclusions. The purpose is to determine the relationship between the trends, regularities, patterns, or notes developed in step four and to determine what they mean in relation to the questions or hypotheses developed in step two. The teacher assists the student in stating clear, concise, tentative conclusions. For Mayan math the students compared and contrasted English, Spanish and Mayan numeration.

Generalizations seek to determine the certainty of conclusions. In this sixth step students and teacher determine under what conditions particular phenomena will occur. The challenge for the teacher is to insure that students develop conclusions such as " ... under condition X, Y is likely to occur." There is a danger of over-generalization. A generalization should specify carefully the range of conditions for which it is applicable (Romey 1968:65).

The seventh and final step is evaluation. Students and/or teacher are involved in determining if the questions developed were answered. Other questions to be answered include: Was the data sufficient? Were techniques and resources adequately utilized? Were conclusions based on data? Did generalizations include conditions? Were additional questions developed? What other resources and techniques could have been used?

The purpose of the model was to show how the inquiry process can be time-efficient and flexible in the sense that many different teaching objectives and strategies can be involved, including lecture, textbooks, library and field research, audio visuals, group work, and research projects. The selection of the techniques and resources would depend upon the objectives of the activity and the time-frame, and the skill and maturational level of the students. The model can be used at both elementary and secondary levels and in most subject areas. Basal reading can be incorporated as the lead-in to the defining of the problem, or it can be incorporated in the gathering of the data or in interpreting. Writing can be incorporated at virtually every stage of the process, and in the process of answering some questions, arithmetic might be used as well. Teachers, then, can incorporate inquiry into the teaching or reading, writing, and arithmetic.

When the teacher-participants became acquainted with the inquiry and basal processes, they found that they were "doing" them, but for the most part did not have the processes organized. Because they realized they had not been teaching "wrong," they were more receptive to the challenge of utilizing the basal and the inquiry process as a means of teaching about multiculturalism and incorporating anthropological concepts on the elementary and secondary levels. The major goal of introducing a scientific approach to the study of multiculturalism was at least partially achieved while at the same time a stronger basis for understanding and cooperation was built between the social science disciplines and between pre-college and college instructors.

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APPENDIX A

Inquiry Process Model

1. Define the Subject Area

    a. Purpose: Introduce and develop awareness of the subject area and motivate the learner/reader.

    b. Techniques: Show relevancy and define the concepts.

    c. Resources: Lectures, readings, films, discussions.

2. Questions or Hypotheses

    a. Purpose: Provide a guide for directed goals of study.

    b. Techniques: Questions must be answerable.

    c. Resources: Student and/or teacher deduces question or hypotheses from Step 1.

3. Gathering the Data

    a. Purpose: Search and find the answers.

    b. Techniques: Lectures, content analysis, field trips, interviews, role playing, simulation games, and research projects.

    c. Resources:

        (1) printed media -- texts, articles, references, magazines, and newspapers.

        (2) non-printed media -- films, audio and video tapes, movies, and slides.

        (3) art -- paintings, murals, architecture, and music.

        (4) oral materials -- ballads, legends, stories, magic, and folklore.

    NOTE: Use of more than one technique and resource should be encouraged. The selection of specific techniques and resources are determined by their availability, teachers and students, and the time allowed for gathering of data.

4. Organize and Interpret Data

   a. Purpose: Summarize and organize the data which will provide framework for interpreting.

   b. Techniques:

      (1) prepare tables, diagrams and graphs.

      (2) make sketches, displays and drawings.

      (3) construct maps, slides and photographs.

   c. Resources: Developed from Step 3.

5. Conclusions

   a. Purpose: Determine what the trends and patterns found in Step 4 mean in relationship to the hypotheses.

   b. Techniques: Tentative conclusions are stated in clear, concise language.

6. Generalizations

   a. Purpose: Determine under what conditions particular phenomena will occur.

   b. Techniques: Test conclusions against new evidence.

7. Evaluation

   a. Purpose: Determine if the question was answered.

   b. Techniques:

      (1) Was data sufficient?

      (2) Were techniques and resources adequate?

      (3) Was conclusion based on data?

      (4) Did generalization include conditions?

      (5) Were additional questions developed?

      (6) What other resources and techniques could have been used?

APPENDIX B

Lesson Plan

Topic:

The Devil in Folklore

Intended Grade Levels:

Secondary -- Social Studies or Language Arts.

Behavioral Objectives:

The student will be able to:

1. Identify the devil's role in folklore.
2. Utilize the data to compare and contrast the role of the devil in folklore.
3. Develop statements about:
    a. The role of the devil within the socio-cultural context;
    b. How cultural change has or has not occurred as evidenced by the role of the devil in folklore over three generations.

Materials:

1. Books, *Stories That Must Not Die*, Vol. I, Vol. II, Vol. III, Vol. IV.
2. Story, "The Devil and Daniel Webster"
3. The Bible
4. Pen and paper
5. Recorders
6. Poster board
7. Overhead projector

8. Chalkboard and chalk

Description of Activities/Exercises:

1. Define the Subject Area:

   a. Teacher asks students what they know about the devil.

   b. Students discuss. This introduces the topic of the devil and with the discussion, the devil in folklore.

   c. Students are led to posing the problem, i.e., What is the devil?

2. Questions or Hypotheses:

   a. Teacher leads students through questions to pose a question to be researched and answered. For example,

      (1) Do people believe in the devil?

      (2) What do they believe about the devil?

      (3) Do people's beliefs change from one generation to the next?

      (4) Why might people's beliefs change over generations?

   b. Students discuss these questions; teacher makes notes on the chalkboard. Teacher guides students to formulate questions answerable with resources available.

3. Gathering the Data:

   Designing the plan - Explain to the students that information relevant to their questions is available from both texts and people.

   a. Interview data to be gathered from three generations: a grandparent, a parent, a brother, sister, or self. If one generation member is deceased or not available for the interview, select a comparably aged person who is a relative, as a substitute (i.e., uncle, great aunt). Depending upon the ability and maturational level of the students, the teacher may provide the questionnaire for them and explain the relevance of each question or students may develop their own questions in groups of 4 or 5. Interviews should include:

(1) *Biographical information for social context.* Ask students what kind of information they feel would be important to know about each person. Teacher may need to explain what is meant by social context and how social context acts as a variable. Discuss with full group the important factors which may cause the change in beliefs or basis of beliefs. After the examples have each group formulate 10 items of information they think would be necessary. Have each group list theirs on the board or show them on an overhead projector. Teacher will add any important factors that may not have been suggested by students. The most appropriate will be used for students in their interviews. These should include: educational level of husband or wife, place of birth, environment such as rural, urban, migrant, religious background, ethnicity of husband and wife, age when married, number of children, number of children wanted, media available, etc.

(2) *Beliefs concerning the devil*: Follow the same format to elicit a few examples before students get into groups, i.e., (a) Does the devil exist?; (b) What does it mean when the devil appears to someone?; (c) When was the first time you heard about the devil?; (d) From whom?; (e) Where? Have the students formulate five questions per group and share them with the class as they did before. Again, prioritize with them, make additions as needed. Have the students write the selected questions. Students interview people at this time outside of class. Data from texts. With the same questions in mind students read two stories from *Stories that Must Not Die*, *The Devil and Daniel Webster*, and two passages from the *Bible*, one from the Old Testament and one from the New Testament.

4. Organizing and Interpreting Data:

This is where comparison and contrast is taught following basal reading format, using devil literature during class. With the students, after the first two readings, set up a comparison-contrast chart. The students will add to it as they read from the other selections with the teacher guiding and evaluating regularly. The chart might be as follows:

	Stories That Must Not Die	Devil & Daniel Webster	Old Testament	New Testament	Folk Beliefs
What form					
To whom					
Why?					
Sex					
How old were you?					

The categories may be added to as they read. Look at the chart together when the students finish their reading assignments and charting. The teacher should begin by showing one similarity and one difference. The students orally proceed to do the same. As students collect data from these interviews, that data should be added to the chart.

5. Conclusions:

The teacher makes one concluding statement to show how one draws conclusions. Orally do one or two others with the students contributing. Then have students finish one of their own.

6. Evaluation:

Evaluation of the students will be based on their ability to organize and draw conclusions from their analysis of the data. By this time, students will have completed their interviews and will be ready to organize, analyze, and interpret their data in groups, each group formulating concluding statements. Each group will then present their conclusions which will allow for the testing of their evidence and the testing of their conclusions.

NOTE: With the given objectives, this lesson would stop here. However, in further work, when generalizing would be taught, this activity could be used to: 1) make generalizations on other folklore over three generations; 2) to make generalizations on devil folklore and other folklore among ethnic groups not encountered in this study.

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APPENDIX C

Lesson Plan

Topic:

Mayan Math

Levels:

Elementary

Behavioral Objectives:

The student will be able to:

1. Recognize and learn another culture's math system;
2. Use the Mayan math system of numeration (how high in numeration will be determined by the age level of the students and the number of facts they presently know);
3. Compare and contrast Mayan math with other known math systems.

Materials:

1. *Arithmetic in Maya*, George I. Sanchez (Teacher resources);
2. Film and/or filmstrips, pictures on Mayan civilization;
3. Circles and bars (0,●,-) from any materials, prepared or student-made for student use;
4. Teacher's "bag" of moveable circles and bars for demonstration;
5. Worksheet and test sheet for students to match numerals or to provide the numerals of one culture for numerals of the other.

Activities:

1. Define the subject area:

a. In groups the students will pretend they lived long ago and will try to come up with a number system for their society. They can use pictures, colors, objects, and/or shapes. When they finish they will show the class what they did and explain it.

b. Introduce the Mayans as one group of people who did what they first tried to do. Ask what they know about Mayans. What were the Mayans like? Show film on Mayans. Ask what the Mayans life was like for discussion.

2. Questions and/or Hypotheses: (provided by teacher)

   a. Did the Mayans have numbers?

   b. What did Mayan numbers look like?

   c. How did Mayans use numbers?

   d. Can Mayan numbers do the same things our numbers do?

3. Gathering the data:

   a. Teacher shows and explains the Mayan numbers from 1 to 20 (depending on level of students, do number facts only or get into math problems, buying situations, etc.);

   b. Teacher has oral and visual practice with students.

4. Organize and Interpret Data:

   a. Students practice numeration with their bars and circles as teacher gives familiar numbers;

   b. Students do worksheet provided by the teacher.

5. Conclusions: Teacher asks:

   a. How are Mayan numbers different from the numbers you know?

      (1) They don't have names.

      (2) They only go to 20.

      (3) They only have three things to count with (bars, empty circles, filled circles).

      (4) These things are not symbols.

b. How are Mayan numbers like the numbers we know?

    (1) They are ways of counting.

    (2) They are used for a calendar.

    (3) They have a zero (0), (they were the first to have a zero).

    (4) Depending on the student's level, they can be used to work problems.

6. Evaluation: These questions should be asked by the teacher and discussed by the students.

    a. Did we answer the questions?

    b. Do other cultures have numbers that are similar and/or different?

    c. How could we find out about them?

    d. Where did our numbers come from?

APPENDIX D

Sample of Teacher-Participant Lesson Plans

The activities produced in the Multiculturalism Project were designed to include different modes of instruction and levels of knowledge in order that learning experiences would be significant for students at various grade and ability levels. There is a wide variety of instruction delivery modes including games, field trips, films, simulations, role-playing, interviewing, and use of community resources. Hopefully, these experiences will lead students toward the active role of doing rather than only discussing or reading about the vast reservoir of multiculturalism in their local and natural communities.

A few of the many lesson plans developed by teacher-participants are reproduced here. Please feel free to use any or all of the activities as they are presented or adapted to fit your unique situation.

LESSON PLAN TOPIC: Where Were You Born?

PARTICIPANT: Adele Spencer

INTENDED GRADE LEVELS: 7th and 8th grades

Behavioral Objectives:

1. Students will get to know each other better;
2. Students will list information they learned about the different geographical locations represented by members of their class;
3. Students will recall at least one interesting and different custom from each geographic location represented in their class.

Materials: (if needed)

1. Maps of U.S., Mexico, Canada, and any other country that might be needed (teacher should determine this ahead of time);
2. Books and magazines about different countries, states, regions, cities;
3. Kit "Other People, Places and Things" Learning Tree, c1974. Includes 4 sound filmstrips with teacher's guide.*

Description of Activities/Exercises:

1. Introduce lesson by using kit, "Other People, Places and Things." This kit demonstrates a range of life styles, cultures, geographic features that exist in the world. It shows people and places vastly different from the world we know and at the same time, points out similarities;
2. Ask students where they were born;
3. List all different places on blackboard;
4. Divide students into small groups with each student representing a different place;
5. Have students in each group tell about the place of their birth;

6. Have students compare and contrast, list similarities and differences;

7. Have each group report orally. Suggest that oral report be accompanied by charts, poster, pictures and/or objects;

8. Use maps to point out or mark different places.

Method of Evaluation:

1. Each group will report orally, using charts, posters, pictures, etc. to supplement their presentation.

2. Students will list information they have learned about each place represented in the class.

* If this kit is not available, use books, pictures, maps or check filmstrip and kit catalog at your school LRC for similar material.

LESSON PLAN TOPIC: Folklore of the Rio Grande Valley

PARTICIPANT: Dorothy Cory

INTENDED GRADE LEVELS: 6th grade English, Spanish, Social Science

Behavioral Objectives:

1. The student will have an understanding of his/her cultural heritage;
2. The student will know what folklore and culture are.

Materials:

Portable recorders if oral history is being recorded.

Description of Activities/Exercises:

1. Each student will elect an area of interest from this list:
    a. Rite of Passage (customs)
    b. Herbs and cures
    c. Folktales of the Valley
2. Each student will document or record as much information as he/she can get from members of families and community members. It is possible a student will get information in an area other than the elected one; this is fine and should be encouraged. The student should find out as much as possible about the origins of the information they have gotten.
3. The students will share their findings and discuss them. The teacher's elaboration about what culture is and how the students share theirs will make it relevant.
4. The students, with the teacher's help, should edit the material gathered and arrange it into a collection according to areas. The collection should be xeroxed or duplicated in some manner with each student getting a copy to keep.

    NOTE: This could be an ongoing activity with other classes contributing, too. Recorded information could become part of an oral history project.

Method of Evaluation:

Student's documented work, participation.

LESSON PLAN TOPIC: Comparison of United States and Mexican Legal System

PARTICIPANT: Barbara Kendall (with Sylvia Flores)

INTENDED GRADE LEVEL: 9th-12th -- History, Government, Pre-Law

Behavioral Objectives:

1. Students will be able to use research skills;
2. Students will be able to research, interview, collect, analyze, evaluate, and tabulate information;
3. Students will be able to cooperate with each other;
4. Students will be able to reach conclusions and make generalizations;
5. Students will be able to compare the different legal systems;
6. Given a situation, students will be able to trace the process or steps crime takes through the legal systems of both countries.

Materials:

1. Chalkboard and chalk
2. Pen, pencils
3. Paper
4. Library resource
5. Speakers
6. Handout

Description of Activities/Exercises:

1. Class will be divided into two large groups. One group will be assigned the Mexican legal system and the other group the American legal system.
2. Each group will be given a list of items that must be included in their research and presentations. These include:
    a. History or origin of that legal system;
    b. Legal structure (local, state, federal);

   c. Definition of crime and different kinds of crime;

   d. Punishment;

   e. Prison system.

3. Library resources to be used to do research.

4. Interviews with persons associated with each legal system or guest speaker. If speaker can only be present one period, the session may be videotaped for presentation to other classes.

5. Each group will gather all this information, analyze, evaluate and present their findings to the class.

6. After the presentations, students will compare both legal systems in order to identify the similarities and differences that exist.

7. Discuss and make generalizations.

Method of Evaluation:

1. Students will be divided into smaller groups. Each group will be assigned a case situation (i.e., murder, robbery, rape, etc.). Their job is to follow the case through both legal systems. Discuss.

2. Class presentations and participation.

LESSON PLAN TOPIC: How Culture and Environment
Affect Our Values

PARTICIPANT: Dorothy Cory

INTENDED GRADE LEVELS: 6th Grade and Up

Behavioral Objectives:

1. The student will realize that we are all products of our culture and environment.
2. The student will realize that what is "right" in one culture may be "wrong" or unacceptable in another culture.
3. The student will be more tolerant and less likely to condemn cultures different from their own.
4. The student will be able to explain why certain clothing is worn, medical practices are used, etc. in a particular culture.

Materials:

Research resources.

Description of Activities/Exercises:

1. The class will be divided into three groups:

   Group 1 will be Pygmys living in the African Congo;
   Group 2 will be Navajo Indians living in New Mexico;
   Group 3 will be Aborigines living in the outback of Australia.

2. Each group will research "their" culture. They will find out about Rites of Passage, religious beliefs, clothing, eating habits, life-style, education, medical practices, problems, geography, etc.
3. Each group will tell about "their" people and defend their way of life and customs to the other students who will do the same concerning "their" people.

Method of Evaluation:

The students' defense of the cultural differences will show the extent to which they really understand and respect these differences.

Student presentations will show a knowledge of the following:

1. Clothing worn depends on geography, custom, and religious prohibitions.
2. Peoples' medical practices are based on isolation, religion, and history of success.
3. We accept practices because our culture says they are acceptable.
4. Which of the cultures researched is most like yours? Why? Do you see reasons for this?

LESSON PLAN TOPIC: Poetry

PARTICIPANT: Mary Pattie Butters

INTENDED GRADE LEVELS: 10th Grade

Behavioral Objectives:

Students will realize that poetry is an art form which is not limited to any one ethnic group, social class, or minority.

Materials: (if needed)

1. A good library;
2. Background information;
3. Presentation of activity requirements.

Description of Activities/Exercises:

Divide class into groups of 4-6 students. Each group is to give an oral presentation presenting poets of different ethnic groups. Each group will choose a separate ethnic group and do the following. The first four are required; the other two are optional.

1. One person gives a biographical sketch of the poet.
2. One person explains the cultural background of the poet.
3. One person reads 2-3 short poems or one long poem; at least 50 lines altogether.
4. One person provides illustration either showing culture or subject of the poem (this can be posters, drawings, collages, or slides).
5. One person provides musical background.
6. Provide representative food of the culture.

Method of Evaluation:

Give each person two grades: individual and group. The group will be determined by how well each performed his function. Consideration will be given to the following:

- interest
- clarity
- organization
- originality
- audible and visual techniques
- content

LESSON PLAN TOPIC: Mexican-American Women

PARTICIPANT: Gilda Roble

INTENDED GRADE LEVELS: Secondary

Behavioral Objectives:

The students will be able to:

1. Recognize the status of women;
2. Recognize the status of the Mexican-American;
3. Recognize the status of the Mexican-American woman;
4. Investigate the status of Mexican-American women using his/her own family;
5. Tabulate, graph, and evaluate changes, types, amount.

Materials: (if needed)

1. Library resources
2. Paper, pen
3. Handout -- statistics

Activities/Exercises:

1. Teacher introduces lesson.
2. Students do library research to discover and gather information on women, Mexican-Americans, and Mexican-American women, organizations and movements in recent history to promote equality for women and minority women. (Best done in groups.)
3. Each group presents its findings.
4. Students interview the women in their family -- mother and grandmother -- to see the differences in lifestyles, roles, independence, occupation/careers, education, social activities, etc.
5. Each student presents information.
6. Together, tabulate and graph results.

7. Discuss results, evaluate, draw conclusions, reasons for mobility/change, or lack of it.

Method of Evaluation:

Have students write a summary paper.

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